



University of Massachusetts Lowell
University College/Division of Continuing Education

Summer 1996

Undergraduate and Graduate Courses

Day and Evenings

■ General & Academic Information	2
■ Registration Information	2
■ Credit Course Listing	5
■ Certificate Programs	20
■ Registration Form	14
■ Noncredit Course Listing	15
■ Professional Institutes	17
Entrepreneurship	
Management	
Multimedia	
Internet	
Computer Graphics & Prepress	
PC User	
Health Care	
Education	

Summer Session I
May 20 – June 28

Summer Session II
July 8 – August 15

Classes Start
May 20, 1996

The Landmark for Learning

Register by phone, mail, or in person.
MasterCard and VISA accepted.

University of Massachusetts Lowell
University College/Division of Continuing Education
One University Avenue
Lowell, MA 01854-2881
(508) 934-2480

The University uses multiple mailing lists. If you receive a duplicate copy, please share it with a friend.

Non-Profit Org.
U.S. Postage
PAID
Permit #284
Lowell, MA
01854

Message from the Director of Professional Institutes

UMass Lowell: A Landmark for Learning

UMass Lowell offers courses, institutes, and certificate programs that can help you keep pace with the rapidly changing business environment. Some of the newest technologies in demand across the country are requiring today's professionals to become proficient suddenly in areas of knowledge and skill that never existed before.

UMass Lowell answers that need with state-of-the-art training opportunities that are critical to the jobs of the future, featuring certificate programs and institutes from *Multimedia to Internet Systems Administration to Data/Telecommunications and UNIX System Administration*.

This summer UMass Lowell will offer for the first time several new and expanded day seminars and institutes in the area of information technology, designed to help you navigate the most current technologies and computer application programs:

Internet Institute. The Internet Institute offers you an opportunity to attend courses designed to train you in all aspects of World Wide Web development. Whether your interests lie in programming with JAVA, designing and delivering interactive content with VRML and Shockwave, or establishing and administering Web servers, the Internet Institute will help you master the skills you need to succeed. (See Page 17)

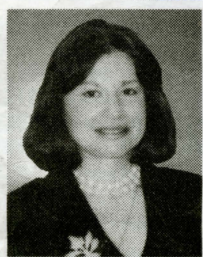
Multimedia Institute. Predictions indicate that the market for multimedia may well exceed \$12 billion in sales by 1996. Come explore this new career option and discover how you can become a part of this growing industry. UMass Lowell has become a landmark for learning in this area through its Multimedia Certificate Program, which features one of the largest, most comprehensive programs of study available in New England. (See page 17)

PC User Institute. Learn to use some of the most popular software application programs to help you advance in your career or to assist you with your personal computing needs. With over 20 workshops ranging from *Installing and Networking Windows 95 to Visual Basic and Introduction to Lotus Notes*, your opportunities to broaden your horizons are many. For your added convenience, several of these workshops can now be delivered on-site at your company. (See page 18)

With over 500 courses including graduate and undergraduate classes offered this summer, you owe it to yourself to take advantage of UMass Lowell's low tuition.

Finally, we are always looking for new ideas! If you have any concepts or suggestions for offering new programs as part of our technology institutes, please call or write us at our new World Wide Web site. (See Below)

We look forward to seeing you this summer!



Catherine A. Kendrick
Director, Professional
Institutes



General Information

Office Hours:

University College Advising Center, Southwick Hall, Room 305, Monday-Friday: 8:30 am-5:00 pm

Office of Enrollment Services, Southwick Hall, Monday-Thursday: 8:30 am-8:30 pm
Friday: 8:30 am-5:00 pm

Holiday Hours:

May 27: Memorial Day observed
June 2: Commencement
July 4: University Closed

The week of July 1 through July 5 the Office of Enrollment Services will be open from 8:30 am-5:00 pm

The week of August 19 through August 23, the Office of Enrollment Services will be open from 8:30 am-7:00 pm

Phone Directory

(508) 934-2480—For general questions concerning Continuing Education (you will receive a recorded directory)
(508) 934-2474—University College Advising Center
(508) 934-2700—To register by phone with an on-line operator
(508) 934-2050—To register by phone using the Voice Response System
(508) 934-2477—Office of Enrollment Services/Continuing Education
(508) 934-2470—Certificate Line
(508) 934-4000—For general questions concerning UMass Lowell
(508) 934-3087—Continuing Education Fax Number



Registration Information

Get a head start and register early. Although we cannot guarantee an opening in any class, your chances for being enrolled in the course of your choice are better when you register early.

We encourage you to mail-in, fax or phone-in your registration!

See Academic Calendars on page 3 for appropriate registration deadlines

Mail-In Registration:

1. Fill out the registration form and return it postmarked no later than the scheduled deadline.
2. Mail to: University of Massachusetts Lowell Enrollment Services /Continuing Education One University Avenue Lowell, MA 01854-2881
3. Payment must be made with the registration form, either by check, money order, VISA, or MasterCard. Make checks payable to: University of Massachusetts Lowell
4. Students will receive class confirmation, room assignment, receipt and ID by mail before the first class meeting.

Fax-In Registration:

Fill out the registration form and fax it to (508) 934-3087 no later than the scheduled deadline. Be sure to include your VISA or MasterCard number.

Phone-In Registration with an on-line operator

1. Payment can be made by VISA or MasterCard only.
2. Call (508) 934-2700. Please refer to the Office of Enrollment Services hours for phone-in registration times. The registration staff may take only registration information. If you have any questions concerning courses and academic programs, please call (508) 934-2481 or (508) 934-2474. Check page 3 for phone-in registration deadlines.

Phone-In Registration using the Voice Response System (Credit Courses Only): Dial (508) 934-2050/2049.

Students who are presently enrolled at the University of Massachusetts Lowell, Division of Continuing Education and who have a Continuing Education PIN# (students registered during Fall and Spring), may now register for summer classes through the touchtone telephone registration system. This system is available during the following times: Monday-Thursday: 6:00 am-11:00 pm
Friday: 6:00 am-9:00 pm

To access the system, dial (508) 934-2050/934-2049.

The Voice Response System will answer the call and ask if you want to access Day School (Option 1) or Evening Sessions (Option 2). Choose Option 2. You will now be asked for your ID# and if valid, your Continuing Education PIN#.

Hold flags will be checked and if none are found, you will be led through the Registration/Add/Drop process by a series of menus and options.

When you finish selecting your courses, you will be asked to pay by credit card and told the amount owed. Registration will be completed upon payment.

If you hang up anytime during the call or do not complete the payment process, all of the ADD transactions will be voided.

If you experience any problems with this system, please report them to (508) 934-2477.

Office Walk-In Registration at the Office of Enrollment Services/Continuing Education, Southwick Hall, North Campus

Please refer to the Office of Enrollment Services hours for walk-in registration. Payment must be made at the time of registration. Payment after 4:00 pm must be made by check, money order, VISA, or MasterCard. Students will receive class confirmation, room assignment, receipt, and ID at the time they register.

Late Registration

In person, late registration will take place in the Office of Enrollment Services. See page 3 for late registration dates. **Note: There is an additional \$30.00 fee for late registration.**

Due to the unique nature of the Community Education Noncredit Courses, noncredit registrations cannot be accepted after the first class meeting.

Final Drop/Add Period

See the appropriate academic calendar. Drop/adds can be processed in the Office of Enrollment Service/Continuing Education, Southwick Hall, North Campus.

Last Week to Withdraw with "W" Notation: Prior to the eighth class meeting. Students withdrawing from any class must officially notify the Office of Enrollment Services on forms provided by the Office. Verbal messages to faculty or staff do not constitute official notification.

Identification Card

Students registering in person will receive an ID card during the office walk-in registration and general registration. Students who register by phone or mail will receive their ID by return mail with their letter of confirmation.

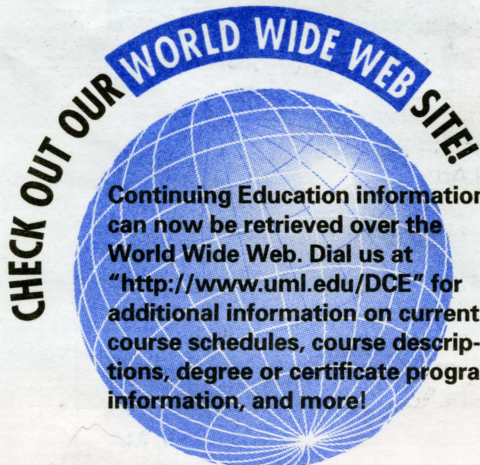
Students with Disabilities

A student with a disability who needs special arrangements should contact Susan Desmond at (508) 934-2465 early in the registration process. Special advising, registration assistance, preferential scheduling, and alternative examination procedures are available. Students must qualify for handicapped parking stickers. Special parking is also available on a temporary basis.

This newspaper is printed at no cost to the Commonwealth of Massachusetts. The University of Massachusetts is an Equal Opportunity/Affirmative Action Title IX, H/V, ADA 1990 Employer and does not discriminate on the basis of race, color, sex, age, religion, national origin, sexual orientation, disability or veteran status in its educational programs, activities, or employment policies.

Every effort has been made to ensure the accuracy of the information presented in this bulletin. However, the Division of Continuing Education reserves the right to implement new rules and regulations and to make changes of any nature in its program, calendar, locations, tuition, and fees. Whenever possible, appropriate notice of such changes will be given before they become effective.

In registering for courses, each student assumes full responsibility for knowledge of and compliance with the definitions, regulations, and procedures for the University as set forth in the appropriate publications and bulletins.





Academic Calendar and Registration Information

Summer Session I May 20 - June 28, 1996

Day classes begin on May 20.

M/W Evening classes begin on May 20 and include 3 FRIDAYS: May 31, June 14, June 28 at the regularly scheduled hours.

T/Th Evening classes begin on May 21 and include 2 FRIDAYS: June 7, June 21 at the regularly scheduled hours.

We encourage you to mail-in, phone-in, or fax-in your registration.

May 27: Memorial Day observed.

Mail-In Registration: March 18-May 13
Phone-In Registration: March 18-May 17
Fax-In Registration: March 18-May 17
Walk-In Registration: March 18-May 17

General Registration: May 13 & 14

May 13 & 14, 9:00 am-12:00 Noon and 5:00 pm-7:30 pm in the Office of Enrollment Services.

Late Registration: May 20 & 21

May 20 & 21, 9:00 am-12:00 Noon and 5:00 pm-7:30 pm in the Office of Enrollment Services.

Note: There is an additional \$30.00 fee for late registration.

Last Day to Add a Lab:

Day Classes: May 21

Last Day for Partial Refund:

(Before the 3rd class meeting)

Day Classes: May 22

M/W Evening Classes: May 29

T/Th Evening Classes: May 28

Last Day to Drop/Add Course:

Day Classes: May 24

(Before the 4th class meeting)

M/W Evening Classes: May 29

(Before the 3rd class meeting)

T/Th Evening Classes: May 28

(Before the 3rd class meeting)

Last Day to Withdraw with "W" notation:

Day Classes: June 5 for a 3-credit course;
June 3 for a 4-credit course.

(Before the 10th class meeting)

M/W Evening Classes: June 12

(Before the 8th class meeting)

T/Th Evening Classes: June 11

(Before the 8th class meeting)

Final Examinations:

Day Classes: June 26 for a 3-credit course;

June 27 for a 4-credit course

M/W Evening Classes: Friday, June 28 at 7 pm

T/Th Evening Classes: Thurs., June 27 at 7 pm

NOTE:

3-credit day courses meet Monday through Thursday

4-credit day courses meet Monday through Friday
Unless otherwise indicated

M/W evening courses meet twice a week plus 3 Fridays: May 31, June 14, and June 28

T/Th evening courses meet twice a week plus 2 Fridays: June 7 and June 21

Summer Session II July 8 - August 15, 1996

Day classes begin on July 8.

M/W Evening classes begin on July 8 and include 2 FRIDAYS: July 19, August 2 at the regularly scheduled hours.

T/Th Evening classes begin on July 9 and include 2 FRIDAYS: July 26, August 9 at the regularly scheduled hours.

We encourage you to mail-in, phone-in, or fax-in your registration.

Mail-In Registration: March 18-June 28
Phone-In Registration: March 18-July 5
Fax-In Registration: March 18-July 5
Walk-In Registration: March 18-July 5

General Registration: June 26

June 26, 9:00 am-12:00 Noon and 5:00 pm-7:30 pm in the Office Enrollment Services.

Late Registration: July 8 & 9

July 8 & 9, 9:00 am-12:00 Noon and 5:00 pm-7:30 pm in the Office of Enrollment Services.

Note: There is an additional \$30.00 fee for late registration.

Last Day to Add a Lab:

Day Classes: July 9

Last Day for Partial Refund:

(Before the 3rd class meeting)

Day Classes: July 10

M/W Evening Classes: July 15

T/Th Evening Classes: July 16

Last Day to Drop/Add Course:

Day Classes: July 11

(Before the 4th class meeting)

M/W Evening Classes: July 15

(Before the 3rd class meeting)

T/Th Evening Classes: July 16

(Before the 3rd class meeting)

Last day to withdraw with "W" notation:

Day Classes: July 23 for a 3-credit course; July 19
(Before class) for a 4-credit course

(Before the 10th class meeting)

M/W Evening Classes: July 29

(Before the 8th class meeting)

T/Th Evening Classes: July 30

(Before the 8th class meeting)

Final Examinations:

Day Classes: August 13 for a 3-credit course;

August 14 for a 4-credit course.

M/W Evening Classes: Wed., August 14 at 7 pm

T/Th Evening Classes: Thurs., August 15 at 7 pm

NOTE:

3-credit day courses meet Monday through Thursday

4-credit day courses meet Monday through Friday
Unless otherwise indicated

M/W evening courses meet twice a week plus 2 Fridays: July 19 and August 2

T/Th evening courses meet twice a week plus 2 Fridays: July 26 and August 9



Academic Information

The University of Massachusetts Lowell is accredited by the New England Association of Schools and Colleges, which accredits schools and colleges in the six New England states. Membership in the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators. The programs in Civil Engineering Technology, Electronic Engineering Technology, and Mechanical Engineering Technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Catalog

Students should refer to the catalog for rules, regulations, program outlines, and course descriptions. The 1994-1996 Division of Continuing Education catalog is available in the Advising Center and the Office of Enrollment Services. Catalogs are free upon request. Call (508) 934-2480.

Admission to a Certificate or Degree Program

Students who have graduated from high school or who have earned a high school equivalency certificate are invited to apply for programs leading to a Certificate or an Associate or Baccalaureate degree. Applications for all programs are accepted on a rolling admissions basis. Contact the Division of Continuing Education Office at (508) 934-2470 (certificate programs) or (508) 934-2465 (degree programs) for an application and information on the application procedure. There is no fee to apply.

The following degree and certificate programs are available on a part-time evening basis:

College of Engineering

Associate's Degrees

Civil Engineering Technology
Civil Engineering Technology:
Water Treatment Option
Civil Engineering Technology:
Wastewater Treatment Option
Civil Engineering Technology:
Surveying Option
Electronic Engineering Technology
Mechanical Engineering Technology

Bachelor's Degrees

Civil Engineering Technology
Civil Engineering Technology:
Environmental Option
Electronic Engineering Technology
Industrial Technology: Manufacturing,
Plastics, Water/Wastewater Option
Mechanical Engineering Technology
Mechanical Engineering Technology:
Manufacturing Option

College of Arts and Sciences

Associate's Degrees

Applied Chemistry
Applied Chemistry: Biotechnology Option
Applied Chemistry: Hazardous Waste Option
Applied Mathematics
Applied Mathematics:
Computer Mathematics Option
Information Systems
Criminal Justice

Bachelor's Degrees

Applied Chemistry
Applied Chemistry: Coatings Option
Applied Mathematics
Applied Mathematics:
Computer Mathematics Option
Criminal Justice
Criminal Justice: Paralegal Option
Information Systems
Liberal Arts

College of Management

Associate's Degrees

Accounting
Banking
Management

Bachelor of Science in Business Administration

Expand Your Career Options

with Some of Our Most Popular Bachelor's Degree Programs In:

- Bachelor of Science in Business Administration
- Bachelor of Science in Industrial Technology
- Bachelor of Liberal Arts

2 New Certificate Programs In:

- Computer Assisted Manufacturing*
- Hazardous Waste Management*

For more information, call the Advising Center at **(508) 934-2474.**

*Subject to Faculty Senate approval.

Certificate Programs

Accounting	Multimedia Applications
Banking	Nutrition
NEW! Computer Assisted Manufacturing*	Packaging
Computer Proficiency	Paralegal
Data/Telecommunications	Plastics Engineering Technology
Electro-Optics	Purchasing Management
Engineering Skills*	Quality Assurance
Environmental Technology	Security Management
NEW! Hazardous Waste Management*	Spanish
International Trade	Technical Writing
Internet Systems	UNIX
Administration	Wastewater Treatment
Land Surveying	Water Treatment
Manufacturing Technology	Windows Development Programming

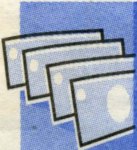
*Subject to Faculty Senate approval.

Certificate Completion

When a student completes the necessary courses for a Certificate program, the student should complete and submit a Certificate Award Petition to the Division of Continuing Education.

Course Grades

Grade reports for the summer sessions will be mailed to students approximately two weeks after exams end. Students who have received their PIN# can also call the Voice Response System at (508) 934-2050 to receive their summer session grades which will be available as soon as they are posted.



Financial Information

Tuition is priced on the basis of credit hour unless contact hour is different. Tuition is then based on the listed contact hour.

Tuition and Fee Information

Registration Fee (non-refundable)	\$35.00
Undergraduate Tuition (per credit/contact hour)	\$115.00
Undergraduate Audit (per credit/contact hour)	\$115.00
Late Registration Fee	\$30.00
Laboratory Fee (refundable before first class meeting)	\$50.00
Graduate tuition (per credit/contact hour)	\$195.00

Students who have checks returned due to insufficient funds will be charged an additional \$30.00 for the processing of the registration.

Overdue Accounts

Students will be permitted to attend class and to utilize facilities only after they have cleared all their financial obligations to the University. In addition, student transcripts and diplomas will not be released unless all indebtedness has been discharged. Should it be necessary to utilize the services of a collection agency or attorney for an overdue student account, the student will be liable for any and all legal fees, commissions, and associated service charges.

Directed Studies

Directed studies are considered Special Programs, and as such, tuition remission and certificates of eligibility cannot be accepted.

Veterans' Information

Veterans must be matriculated in an undergraduate program and have all appropriate paperwork on file at Continuing Education in the Office of Enrollment Services, including a DD214, an Admission Application form, and official transcripts from other colleges in order to receive VA benefits. Waivers cover 100% cost of tuition, are not retroactive and do not cover registration and other fees. In addition, veterans requesting benefits must check the appropriate line on the registration form. Please note: Veterans should use the mail-in, walk-in or fax-in options when registering (no phone in). For additional information call (508) 934-2430.

Third Party Payment

All students using company direct payment, military plans, state tuition waivers, or veterans' waivers must include the appropriate forms or authorizing letters with their registration, or have them on file. No tuition refund is awarded for late submission of eligibility form. Students receiving company reimbursement must prepay their own tuition.

Senior Citizens

Senior citizens (60 years or older) may attend classes in Continuing Education credit programs tuition-free provided that there are sufficient tuition paying students enrolled to bear the cost of instruction and provided there is space available. Please note that waivers are not retroactive and do not cover registration and other fees.

Tuition Refund Policy for Credit Courses

Any eligibility for tuition refund is based on the academic calendar, not class attendance, and is pro-rated as follows excluding fees:

Withdrawal before first class meeting	100%
Before the second class meeting	90%
Before the third class meeting	50%
After third class meeting	No refund

Class Cancellations

If classes are cancelled due to insufficient enrollment, full tuition and fees will be refunded.

Students withdrawing from any class must officially notify the Office of Enrollment Services/Continuing Education on forms provided by the Office. Verbal messages to faculty or staff do not constitute official notification.

Tuition Refund Policy for Noncredit Courses

Participants who withdraw before the first class meeting will receive the total amount paid excluding the \$15.00 registration fee. Participants who withdraw following the first class meeting will receive a 50% refund excluding the \$15.00 registration fee. No refunds are given for withdrawal after the second class meeting.

Student Health Insurance

Effective September 1, 1989, every student who is enrolled in at least 9 semester hours or more in a degree program is required by Massachusetts State legislation to participate in a qualifying student health insurance program. The cost of this insurance is \$289.00 for the spring and summer semesters and payment of the appropriate fee will be required at registration. To waive participation in this program students must fill out a form at registration showing equivalent coverage. Name of the insurance company and policy number are required information on the waiver form.



Advising Information

In an effort to foster quality advising and to service the information needs of our students, University College/Continuing Education has expanded the University's advising efforts.

Drop-in Advising Center

An Advising Center to service both day and evening students is available to students in Southwick Hall, North Campus. Students are welcome to drop by from 8:30 am-5:00 pm for general advising, information on associate's and bachelor's degrees and certificate programs, and/or to obtain catalogs and brochures. Call the Advising Center at (508) 934-2474.

Workshops on topics such as study skills, time management, listening and note taking will also be available. General advisors and peer advisors will be on hand to assist students and to answer their questions.

For information on Certificate Programs, call the Certificate Line at (508) 934-2470.

For Appointments with Program Coordinators and General Advisors, call (508) 934-2430, 934-2477, or 934-2557.

In addition to the advising conducted at the Advising Center, appointments with General Advisors and Program Coordinators are being scheduled in the Office of Enrollment Services. Students are encouraged to call the Office of Enrollment Services/Continuing Education at (508) 934-2430, 934-2477, 934-2557. Evening supervisors are also available from 5:00 pm-8:00 pm to answer questions.

Evening Supervisors

Professor Alan Doerr
Professor Bernard Shapiro

Faculty Advisors

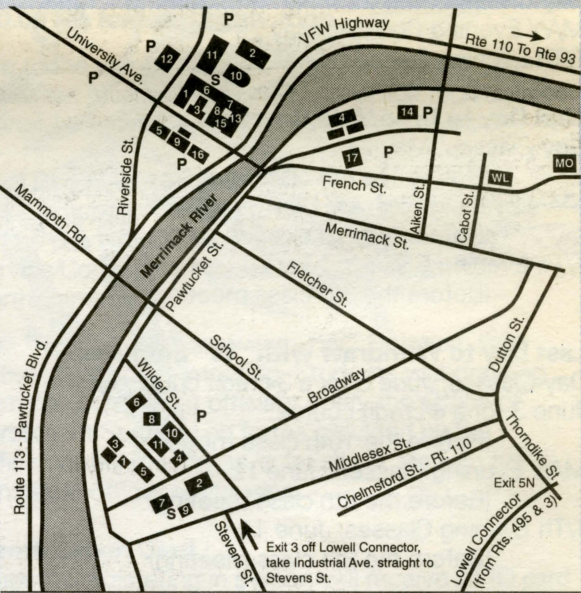
Professor Donald R. Berry: Liberal Arts, Criminal Justice, Paralegal Studies
Professor Alease Bruce: Nutrition and Health
Professor David Colling: Industrial Technology
Professor Paul Damour: Chemistry, Biology, Environmental Sciences, Physics
Professor Alan Doerr: Applied Mathematics
Professor Stephen Driscoll: Plastics and Industrial Technology/Plastics Option, Packaging
Professor Ann Marie Hurley: Computer Mathematics, Information Systems, Multimedia
Professor Paul Kales: Civil Engin. Tech. (on sabbatical)
Professor Donald Pottle: Chair - Engineering Technology, Water/Wastewater, Environmental Technology
Professor Charles Thompson: Accounting, Banking, Management
Professor Robert Tuholski: Civil Engineering Technology, Mechanical Engineering Technology, Industrial Technology: Manufacturing Option
Professor Fahd Wakim: Electronic Engineering Tech.

General Advisors

Ms. Elaine Bourret: Accounting, Banking, Management
Ms. Susan Desmond: Degree and Certificate Programs
Mr. David Driscoll: Multimedia
Mr. Steven Tello: Multimedia



Campus Information



North		South	
1	BL Ball Engineering Ctr.	1	Allen Hall
2	Costello Gym	2	CO Coburn
3	Cumnock Hall	3	Concordia Hall
4	Dormitories	4	Dining Hall
5	Eames Hall	5	DU Dugan Hall
6	EB Engineering	6	DR Durgin Hall
7	FA Falmouth	7	MA Mahoney Hall
8	KI Kitson	8	OL O'Leary Library
9	Alumni/Lydon Library	9	Power Plant
10	EC Pinanski	10	Student Union
11	OH Olney	11	WH Weed Hall
12	OS Olsen	P	Parking
13	PA Pasteur	S	Security
14	Research Foundation		
15	SO Southwick Hall	<u>Downtown</u>	
16	Smith Hall	MO	Mogan Center
17	Fox Student Union	WL	Wannalancit
P	Parking		
S	Security		

Parking

Students are encouraged to park in the numerous parking lots on the North and South Campus. Parking stickers may be obtained from the University Police in Ball 125 North Campus (open 24-hours a day, 7 days a week). This sticker entitles students to park after 5:30 pm in any University parking lot except Cumnock Hall. Students should not park in "Residential Parking" areas because Lowell police will tow.

Locating Your Classroom

Upon registration, students are issued a confirmation printout which includes the two-letter building code along with the room number. Refer to the map and building key above to locate where your class will be held. For assistance, call the Advising Center at (508) 934-2474.

Academic Credit Course Listing

REMINDER: CHECK COURSE NUMBERS AND PREREQUISITES TO ENSURE ENROLLMENT IN THE CORRECT CLASS.

College of Management AACSB Accredited Courses

The College of Management at the University of Massachusetts Lowell is accredited by the American Assembly of Collegiate Schools of Business (AACSB) at the graduate and undergraduate level. All courses preceded with + should be acceptable towards any AACSB accredited program and transfer to the College of Management's M.B.A. and undergraduate programs without any restrictions, provided the student has fulfilled all prerequisites prior to taking the course. These courses marked with + are limited to students enrolled in AACSB accredited programs.

Summer Session I
May 20 – June 28, 1996

Day Classes begin on May 20.
3 credit courses meet Monday through Thursday;
4 credit day courses meet Monday through Friday

M/W Evening Classes begin on May 20 and include 3 FRIDAYS:
May 31, June 14, June 28 at the regularly scheduled hours.
T/Th Evening Classes begin on May 21 and include
2 FRIDAYS: June 7, June 21 at the regularly scheduled hours.

	No.	Title	Time	Days	Cr(Co)	P: Prerequisite/ Corequisite/Other	Instructor
Accounting	(See above for restrictions on courses marked with a '+')						
	60.201-011*	Accounting/Financial	Noon-2:00 pm	M-Th	3		Samuel Chesler
	60.201-012*	Accounting/Financial	7:00-10:00 pm	M/W	3		Harold Sauter
	60.202-011	Accounting/Managerial	9:45-11:45 am	M-Th	3	P: 60.201	Samuel Chesler
	67.101-011*	Accounting Principles I	7:00-10:00 pm	T/Th	3		Charles Thompson
	67.102-011	Accounting Principles II	7:00-10:00 pm	T/Th	3	P:67.101	Claire Bickford
	67.209-011	Federal Income Taxes	7:00-10:00 pm	T/Th	3	P: 67.102	Kevin Wall
	60.201 is for students with some accounting/business experience. 67.101 is for students with no accounting experience.						
	*Students may not receive credit for both 60.201 and 67.101. The above courses with the 67 prefix are not intended for matriculating in the Bachelor of Science degree programs in the College of Management.						
	CERTIFICATE IN ACCOUNTING (See page 20 for required courses.)						
Art	70.255-011	Drawing I (Lab Fee)	9:00-12:30 pm	M-Th	3	AE, Area II	Department Faculty
	70.265-011	Computer Art I Studio (Lab Fee)	9:45-11:45 am	M-Th	3	AE	Department Faculty
	70.271-011	Painting I (Lab Fee)	9:00-12:30 pm	M-Th	3	AE, Area II	Department Faculty
	70.496-011	Practicum in Studio Art	9:00-12:30 pm	TBA	3	P: permission of Art Department	Department Faculty
	72.150-011	Basic Stagecraft	6:30-10:00 pm	M/W	2	(6/3 to 6/28)	William Brackett
	79.101-011	Art Appreciation	7:00-10:00 pm	M/W	3	AE, HSA, Area II	Charles Guiliano
	79.203-011	Survey of Art: Prehistoric to Medieval	7:30-9:30 am	M-Th	3	AE, HSA, Area II	Liana Cheney
	79.204-011	Survey of Art: Renaissance to Modern	9:45-11:45 am	M-Th	3	AE, HSA, Area II	Liana Cheney
	79.494-011	Directed Study in Art History	Time: TBA	TBA	3	P: permission of Art History Coordinator	Department Faculty
	79.496-011	Practicum in Art History	Time: TBA	TBA	3	P: permission of Art History Coordinator	Department Faculty
Banking	69.119-011	Commerical Lending	7:00-10:00 pm	M/W	3	P: 67.102	Michael Mullin
	69.232-011	Money and Banking	7:00-10:00 pm	T/Th	3	P: 49.201, 49.202	Franklin Inman, Jr.
	CERTIFICATE IN BANKING (See page 20.)						
Biological Sciences	35.211-011	Basic Clinical Microbiology & Pathology	9:45-11:45 am	M-Th	3	P: 35.102, 35.104; C: 35.213, SC	Jacob Lam
	35.213-011	Clinical Micro. & Pathology Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	P: 35.102, 35.104; C: 35.211, SC	Jacob Lam
	81.215-011	Introduction to Marine Biology	7:30-9:30 am	M-Th	3	C: 81.217, SC	Department Faculty
	81.217-011	Intro to Marine Biology Lab (Lab Fee)	9:45-11:45 am	MWTh	1 (3)	C: 81.215, SC	Department Faculty
	81.320-011	Botany	7:30-9:30 am	M-Th	3	SC, C: 81.322	Ezequiel Rivera
	81.322-011	Botany Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	SC, C: 81.320	Ezequiel Rivera
	83.101-011	Life Science I	Noon-2:00 pm	M-Th	3	C: 83.103, Area III, SC	Siu-Lam Lee
	83.101-012	Life Science I	7:00-10:00 pm	T/Th	3	C: 83.103, Area III, SC	G. Skinner-Brassard
	83.103-011	Life Science I Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (2)	C: 83.101, Area III, SC	Siu-Lam Lee
Chemical & Nuclear Engineering	10.347-011	Elements of Thermodynamics & Heat Transfer	7:30-9:30 am	M-Th	3	P: 92.132, 95.141	Kenneth Rogers
Chemistry	84.111-011	General Chemistry I	Noon-2:00 pm	M-Th	3	SC	Susan McFarland
	84.113-011	General Chemistry Lab I (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	C: 84.111, SC	Department Faculty
	84.121-011	Chemistry I	9:45-11:45 am	M-Th	3	P: Science, Engineering & Eng. Tech. Majors only; others with dept. permission; C: 84.123, SC	Judith Goldsberry
	84.121-012	Chemistry I	6:00-9:00 pm	M/W	3	P: Science, Engineering & Eng. Tech. Majors only; others with dept. permission; C: 84.123, SC	Peter Gabriel
	84.122-011	Chemistry II	Noon-2:00 pm	M-Th	3	P: 84.121, Science, Eng'g & Eng. Tech. Majors only; others with dept. permission; C: 84.124, SC	Judith Goldsberry
	84.122-012	Chemistry II	7:00-10:00 pm	T/Th	3	P: 84.121, Science, Eng'g & Eng. Tech Majors only; others with dept. permission; C: 84.124, SC	Philip Lamprey
	84.123-011	Chemistry Lab I (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	C: 84.121, SC	Department Faculty
	84.123-012	Chemistry Lab I (Lab Fee)	7:00-10:00 pm	T/Th	1 (3)	C: 84.121, SC	Department Faculty
	84.124-011	Chemistry Lab II (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	P: 84.123, C: 84.122, SC	Department Faculty
	84.221-011	Organic Chemistry I	Noon-2:00 pm	M-Th	3	P:84.122,84.124; C: 84.229, SC	Department Faculty
	84.223-011	Principles of Organic Chemistry I	7:00-10:00 pm	T/Th	3	P: 84.122; C: 84.225, SC	Department Faculty
	84.225-011	Principles of Organic Chemistry I Lab (Lab Fee)	7:00-10:00 pm	M/W	1 (3)	C: 84.223	Department Faculty
	84.229-011	Organic Chemistry Lab I (Lab Fee)	2:15-5:15 pm	TBA	1 (4)	C: 84.221, SC	Department Faculty
	86.131-011	Environmental Chemistry I	7:00-10:00 pm	M/W	3		Charles Panagiotakos
Cinema	52.330-011	Cinema and the Italian Americans	9:45-11:45 am	M-Th	3	Area II, VC, AE (in English)	Mario Aste
	52.378-011	Italian Cinema and Culture	Noon-2:00 pm	M-Th	3	Area II, HV, Conducted in English	Mario Aste
Civil Engineering	14.203-011	Statics	7:30-9:30 am	M-Th	3	P: 92.132 or 92.126, 95.144, 96.144	Susan Faraji
	14.350-011	Structural Analysis I	9:45-11:45 am	M-F	3 (4)	P: 14.204	Susan Faraji
	22.211-011	Mechanics I	7:30-9:30 am	M-Th	3		Department Faculty
	22.213-001	Dynamics (runs 7 wks)	9:45-11:45 am	M/W/F	3	P:22.211, 92.225 or 92.231	JMC Kelliger
Civil Engineering Technology	15.246-011	Fluid Mechanics/Hydraulics	7:00-10:00 pm	T/Th	3	P: 15.237 or 23.221	Allen Bondeson
	15.388-011	Pumps & Compressors	7:00-10:00 pm	M/W	3		Paul Doran
	CERTIFICATE IN ENVIRONMENTAL TECHNOLOGY (See page 20 for required courses.) CERTIFICATE IN LAND SURVEYING (See page 20.)						
Civil Eng'g Tech: Water/Wastewater Option	15.340-011	Hazardous Waste Management	7:00-10:00 pm	M/W	3		Nihar Mohanty
	86.131-011	Environmental Chemistry I	7:00-10:00 pm	M/W	3		Charles Panagiotakos
	CERTIFICATE IN WATER TREATMENT (See page 20 for required courses.) CERTIFICATE IN WASTEWATER TREATMENT (See page 20 for required courses.)						
Computer Mathematics (also see Computer Science)	42.221-011	Writing for Multimedia	7:00-10:00 pm	M/W	3	P: 90.230 or permission of instructor	Tim Garrand
	90.230-011	Intro to Multimedia/Mac (Lab Fee)	7:30-9:30 am	M-Th	3		Darryl Benjamin
	90.230-012	Intro to Multimedia/Mac (Lab Fee)	7:00-10:00 pm	M/W	3		Laurie Stevens
	90.230-013	Intro to Multimedia/Windows (Lab Fee)	7:00-10:00 pm	M/W	3		Department Faculty
	90.231-011	Graphics for Mltmdia/Windows (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.230	Department Faculty
	90.231-012	Graphics for Multimedia/Mac (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.230	Marina Javis

Academic Credit Course Listing

90.232-011	Desktop Video Prdctn/Windows (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.230	Department Faculty
90.233-011	Multimedia Authoring Software (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.230	Department Faculty
90.233-012	Using Macromedia's Director/Mac					
90.233-012	Multimedia Authoring Software (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.230	Beatrice Lee
90.234-011	Using Macromedia's Director/Windows					
90.234-011	Designing & Developing (Lab Fee)	7:00-10:00 pm	Mon	3	P: 90.231, 92.232	Robert Graham
90.234-012	Interactive Media/Mac (meets 14 weeks)					
90.234-012	Designing & Developing (Lab Fee)	7:00-10:00 pm	W	3		Beatrice Lee
90.237-011	Interactive Media/Mac (meets 14 weeks)					
90.237-011	Topics in Multimedia: Copyright Issues	7:00-10:00 pm	M/W	3		W. Neil Hurley
90.238-011	Designing Multimedia for the (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.231	Carol Abele
90.238-011	World Wide Web/Mac					
90.476-011	Novell Lan Technology (Lab Fee)	7:00-10:00 pm	T/Th	3		Peter Alberti
90.477-011	Novell Lan Administration (Lab Fee)	7:00-10:00 pm	M/W	3		Department Faculty
90.480-011	Novell Enterprise Installtn Mgmt (Lab Fee)	7:00-10:00 pm	T/Th	3		Department Faculty
91.113-011	Exploring the Internet (Lab Fee)	9:45-11:45 am	M-Th	3		Department Faculty
91.113-012	Exploring the Internet (Lab Fee)	7:00-10:00 pm	M/W	3		Department Faculty
92.202-011	Microcomputers & (Lab Fee)	7:30-9:30 am	M-Th	3	SC	Susan L'Italien
92.202-012	Application Software					
92.202-012	Microcomputers & (Lab Fee)	6:00-9:00 pm	M/W	3	SC	Michael Beaulieu
92.202-013	Application Software					
92.202-013	Microcomputers & (Lab Fee)	6:00-9:00 pm	T/Th	3	SC	Dennis Roffman
92.202-014	Application Software					
92.202-014	Microcomputers & (Lab Fee)	7:00-10:00 pm	T/Th	3	SC	Ernest Johnson
92.202-015	Application Software					
92.202-015	Microcomputers & (Lab Fee)	7:00-10:00 pm	M/W	3	SC	Susan L'Italien
92.211-011*	Application Software					
92.211-011*	Intro to Programming with C (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.121 or equivalent, SC	Department Faculty
92.212-011	Introduction to Programming with C II	6:00-9:00 pm	M/W	3	P: 92.211	Sean McGowan
92.219-011	BASIC Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.111 or working knowledge of another programming language or E.E.T. major, SC	Ralph D'Amelio
92.220-011	Visual Basic (Lab Fee)	7:00-10:00 pm	T/Th	3		Randhir Chatwal
92.220-012	Visual Basic (Lab Fee)	7:00-10:00 pm	T/Th	3		Department Faculty
92.265-012	Pascal Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.112 or 92.121 or equiv., Area III, SC	James Brzowski
92.267-011*	C Programming (Lab Fee)	Noon-2:00 pm	M-Th	3	P: 92.265, SC	Department Faculty
92.267-012*	C Programming (Lab Fee)	6:00-9:00 pm	M/W	3	P: 92.265, SC	Joseph Russell
92.267-013*	C Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.265, SC	Edward D'Entremont
92.267-014*	C Programming (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.265, SC	Timothy Niesen
92.267-015*	C Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.265, SC	Paul Naglel
92.268-011	C++ Programming (Lab Fee)	7:30-9:30 am	M-Th	3	P: 92.267, SC	Paul Nagle
92.268-012	C++ Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.267, SC	Mark Hertel
92.268-013	C++ Programming (Lab Fee)	6:00-9:00 pm	M/W	3	P: 92.267, SC	Lance Smith
92.311-011	Intro to the UNIX Operating Sys. (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.267 or 92.212	Andrew Garside
92.311-012	Intro to the UNIX Operating Sys. (Lab Fee)	Noon-2:00 pm	M-Th	3	P: 92.267 or 92.212	Fred Vegliante
92.312-011	UNIX Shell Programming (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.311	Michael Richards
92.312-012	UNIX Shell Programming (Lab Fee)	6:30-9:30 pm	M/W	3	P: 92.311	William Vales
92.360-011	Intro to Data Structures/C (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.267, 92.212 and 92.364, 92.321	Victor Gagnon
92.363-011	Intro to Data Analysis (SPSSX) (Lab Fee)	9:45-11:45 am	M-Th	3	P: 92.183 or equivalent	Alexander Olsen
92.364-011	Problem Solving with C (Lab Fee)	6:00-9:00 pm	M/W	3	P: 92.212 or 92.267	Sean McGowan
92.455-011	Assembly Lang. Programming I (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.263 or 92.265 or 92.267	Antonio Gellineau
92.470-011	Data Telecommunications	7:00-10:00 pm	M/W	3	P: 92.267, 92.311	Department Faculty
92.473-011	Computer Netwrk Architecture & Protocol	6:00-9:00 pm	T/TH	3	P: 92.472	Alan Wu
92.474-011	Data Base Concepts I (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 2 semesters of a higher level language other than BASIC	Department Faculty
92.475-011	Communication Network Mgmt (Lab Fee)	6:00-9:00 pm	M/W	3	P: 92.472	Raymond Vigeant

*Students may not receive credit for both 92.211 and 92.267
CERTIFICATE IN COMPUTER PROFICIENCY (See page 20 for required courses.)
CERTIFICATE IN DATA TELECOMMUNICATIONS (See page 20 for required courses.)
CERTIFICATE IN UNIX (See page 20 for required courses.)
CERTIFICATE IN MULTIMEDIA APPLICATIONS (See page 20 for required courses.)
CERTIFICATE IN INTERNET SYSTEM ADMINISTRATION (See page 20 for required courses.)
CERTIFICATE IN WINDOWS DEVELOPMENT PROGRAMMING (See page 20 for required courses.)

Computer Science	91.101-011	Computing I (Structured Lab)	6:00-8:00 pm	Wed	1	(13 weekly meetings) C: 91.101-012)	Department Faculty
	91.101-012	Computing I (Lab Fee)	6:00-9:00 pm	Mon	3	(13 weekly meetings) C: 91.101-011)	Department Faculty
	91.102-011	Computing II (Lab Fee)	6:00-9:00 pm	Tues	4	P: 91.101 or Chair permission	Department Faculty
		(13 wklk meetings)					
	91.113-011	Exploring The Internet (Lab Fee)	9:45-11:45 am	M-Th	3		Department Faculty
	91.113-012	Exploring the Internet (Lab Fee)	7:00-10:00 pm	M/W	3		Department Faculty
	91.203-011	Intro to Comp. Org. & Assembly Lang. (11 Weeks) (Lab Fee)	9:00-11:00 pm	S	4		Department Faculty
	91.250-011	Data Structures, Algorhtms & C (Lab Fee) (26 semi-weekly meetings)	6:00-9:00 pm 9:00-11:00 am	Wed plus Sat:	3	P: assumes basic knowledge of C or related programming language	Department Faculty
	91.281-011	Intro to Windows Programming (Lab Fee) with Object Oriented Programming Tools	7:00-10:00 pm	M/W	3	P: 92.220	Department Faculty
	91.371-011	Internet System Administration (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.311 (Offered over Internet)*	Department Faculty
(also see Computer Mathematics)	91.372-011	Managing Internet Information Services	7:00-10:00 pm	T/Th	3	P: 92.311 (Offered over Internet)*	William Ostaski
	91.373-011	HTML Development & (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.311	David Scuito
		CGI Programming					
	91.472-011	Security Issues on the Internet (Lab Fee)	7:00-10:00 pm	T/Th	3	P: permission of instructor	Antonio Gellineau
		*CALL FOR ADDITIONAL INFORMATION					
Criminal Justice	44.101-011	The Criminal Justice System	9:45-11:45 am	M-Th	3		Anthony Petrosino
	44.111-011	Industrial Security	7:00-10:00 pm	M/W	3		John Pignato
	44.141-011	Police Functions	9:45-11:45 am	M-Th	3		F. Paison
	44.201-011	Computer Applications in CJ (Lab Fee)	7:30-9:30 am	M-Th	3	P: 44.101 or instructor permission	Joseph Lipchitz
	44.221-011	Criminology I	Noon-2:00 pm	M-Th	3		James Byrne
	44.234-011	Criminal Law	7:00-10:00 pm	M/W	3		Anthony Petrosino
	44.261-011	Juvenile Delinquency	7:00-10:00 pm	T/Th	3		Steve Sacco
	44.360-011	Gender Race and Crime	7:00-10:00 pm	T/Th	3	P: 44.101	Patricia Thompson
	44.380-011	Sel. Issues: Federal Law Enforcement	7:30-9:30 am	M-Th	3		Douglas Morrow
	44.423-011	Elite Deviance	7:00-10:00 pm	T/Th	3		James Byrne
(also see Paralegal Studies)	44.435-011	Alternative Dispute Resolution	7:00-10:00 pm	M/W	3		Ann O'Connor-Downes
	44.493-011	Computer Crime	7:30-9:30 am	M-Th	3		Joseph Lipchitz
	44.496-011	Criminal Justice Practicum	9:45-11:45 am	M-Th	3	P: Jrs. and Srs. in Crim. Justice only	Renee Kasinsky
		CERTIFICATE IN SECURITY MANAGEMENT (See page 20.)					
		CERTIFICATE IN PARALEGAL STUDIES (See page 20 for required courses.)					
Economics	49.201-011	Economics I (Microeconomics)	9:45-11:45 am	M-Th	3	Area I, BS	Carol McDonough
	49.201-012	Economics I (Microeconomics)	7:00-10:00 pm	M/W	3	Area I, BS	Michael Carter
	49.201-013	Economics I (Microeconomics)	7:00-10:00 pm	T/Th	3	Area I, BS	George Dery
	49.202-011	Economics II (Macroeconomics)	9:45-11:45 am	M-Th	3	Area I, BS	Department Faculty
	49.202-012	Economics II (Macroeconomics)	7:00-10:00 pm	T/Th	3	Area I, BS	Ernesto Sanz
	49.211-011	Statistics I	7:30-9:30 am	M-Th	3	P: 92.122 or equivalent	Paul Snoonian
	49.211-012	Statistics I	9:45-11:45 am	M-Th	3	P: 92.122 or equivalent	George Dery
	49.315-011	Intro to Environmental Economics	9:45-11:45 am	M-Th	3		Paul Snoonian
	49.322-011	East Asia - The Global Economy	7:00-10:00 pm	T/Th	3		Department Faculty
		CERTIFICATE IN INTERNATIONAL TRADE (See page 20 for required courses.)					

Tara Cypsa 2515

Academic Credit Course Listing

Electrical Engineering	16.201-011	Circuit Theory I	Time: TBA	TBA	4	P: 92.132, C: 16.207	Department Faculty
	16.207-011	Basic EE I Laboratory	Time: TBA	TBA	2	Corequisite: 16.201	Department Faculty
	16.311-011	Electronics I Laboratory	Time: TBA	TBA	2	Corequisite: 16.365, SCT	Department Faculty
	16.315-011	Complex Variables for Engineers	Time: TBA	TBA	3	P: 92.234 and 16.201. I(3,0)	Department Faculty
	16.360-011	Electromagnetic Theory I	Noon-2:00 pm	M-Th	3	P: 16.202, 92.234	Tenneti Rao
	16.365-011	Electronics I	Time: TBA	TBA	3	P: 84.122, 16.202; C: 16.311.	Department Faculty
	16.409-011	Project Lab (Lab Fee)	Time: TBA	TBA	3	P: permission of instructor	Ziyad Salameh
	16.410,411,412	Directed Studies	Time: TBA	TBA	3	P: permission of instructor	Department Faculty
16.442-011	Engineerng Applicatns of C Programming	9:45-11:45 am	M-Th	3	P: 16.211, Senior status	Russell Laste	
Electronic Engineering Technology	17.130-011	Electrical Basics and Laboratory	7:00-10:00 pm	TBA	2 (3)	P:42.226,92.115,92.219 or 92.263,99.132	Thomas Coffey
	17.133-011	Electro-optics an Overview	7:00-10:00 pm	T/Th	3		Department Faculty
	17.492-011	Diagnostic Programming	7:00-10:00 pm	M/W	3	P: 17.383 and either 92.265 or 92.267	Philip Arrigo
	CERTIFICATE IN ELECTRO-OPTICS (See page 20.)						
English	42.101-011	College Writing I	7:30-9:30 am	M-Th	3		William Coughlin
	42.101-012	College Writing I	7:00-10:00 pm	M/W	3		Department Faculty
	42.102-011	College Writing II	9:45-11:45 am	M-Th	3	P: 42.101	William Coughlin
	42.102-012	College Writing II	7:00-10:00 pm	T/Th	3	P: 42.101	Department Faculty
	42.103-011	College Writing I for Internatnl Students	7:00-10:00 pm	M/W	3		June Tumblin
	42.212-011	The Short Story	7:00-10:00 am	T/Th	3	P: 42.102, Area II, LT	Department Faculty
	42.224-011*	Business Writing	7:00-10:00 pm	M/W	3	P: 42.102	Rosalie Ryan
	42.226-011*	Technical & Scientific Communication	6:30-9:30 pm	T/Th	3	P: 42.102	Dirk Messelaar
	42.246-011	The Rogue in Fiction	9:45-11:45 am	M/Th	3	P: 42.102, Area II, LT	William Hersey
	42.291-011	History of English Literature I	7:00-10:00 pm	T/Th	3	LT	David Landman
	42.294-011	History of American Literature I	7:00-10:00 pm	M/W	3	P: 42.102, Area II, LT	Robert Griffin
	42.302-011	Creative Writing: Fiction	7:00-10:00 pm	M/W	3		Richard Farrell
	42.303-011	Creative Writing: Poetry	7:00-10:00 pm	T/Th	3		Hillary Halliday
	42.382-011	Crime in Literature	7:30-9:30 am	M-Th	3	P: 42.102, Area II, LT	William Hersey
	42.403-011	Advanced Software Writing	7:00-10:00 pm	Tues	3	(14 weeks)	John Garison
	*Please note that students may not receive credit for both 42.224 and 42.226.						
Environmental Sciences	87.115-011	Astronomy	7:00-10:00 pm	T/Th	3	Area III, SC	Arnold O'Brien
	87.403-011	GIS in Environmental Studies (Lab Fee)	7:00-10:00 pm	T/Th			P. Osteroth
	89.101-011	General Geology I	7:30-9:30 am	M-Th	3	Area III, SC	Arnold O'Brien
	(See offerings under Civil Engineering Technology, Chemistry, Environmental Sciences, and Water/Wastewater Option)						
CERTIFICATE IN ENVIRONMENTAL TECHNOLOGY (See page 20 for required courses.)							
Finance	(For restrictions on courses marked with a '+', refer to page 5 under College of Management AACSB Accredited Courses.)						
	+61.301-011	Business Finance	7:30-9:30 am	M-Th	3	P: 60.202, 49.201, 49.202	R. Koundinya
Health Professions	30.201-011	Community Health	6:00-9:00 pm	T/Th	3		J. Douglass/P. Tyra
	30.315-011	Kinesiology and Lab (Lab Fee)	9:45-11:45 am	M-F	4 (6)	P: All freshmen, sophomore E.P. courses and 1 yr. of A. and P., and 1 year of Physics	Joseph Dorsey
	35.101-011	Human Anatomy and Physiology I	9:45-11:45 am	M-Th	3	C: 35.103	Ted Namm
	35.103-011	Human Anatmy & Physlgy I Lab (Lab Fee)	1:00-4:00 pm	TWTh	1 (3)	C: 35.101	Alease Bruce
	35.211-011	Basic Clinical Microbiology and Pathology	9:45-11:45 am	M-Th	3	P: 35.102, 35.104; C: 35.213	Jacob Lam
	35.213-011	Clinical Microb. & Pathology Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	P: 35.102, 35.104; C: 35.211	Jacob Lam
	35.356-011	Pharmacology	9:45-11:45 am	M-Th	3	P: Junior level	Arthur Vergados
	36.350-011	Human Biochemistry	9:45-11:45 am	M-Th	3	P. 35.252 or equivalent	Department Faculty
History	43.105-011	Western Civilization To 1715	7:30-9:30 am	M-Th	3	Area II, HS	Jonathan Liebowitz
	43.106-011	The Modern World	9:45-11:45 am	M-Th	3	Area II, HS	Jonathan Liebowitz
	43.111-011	U.S. History to 1877	9:45-11:45 am	M-Th	3	Area II, HS	Dean Bergeron
	43.231-011	Renaissance & Reformation	7:00-10:00 pm	T/Th	3	Area II, HS	Carol A. Davis
	43.364-011	War and Cold War: U.S. History in the 1940's and 1950's	7:00-10:00 pm	M/W	3	Area II, HS	Mark Kosinski
	46.368-011	Middle East in the Modern World	Noon-2:00 pm	M-Th	3	Area II, HS	Dean Bergeron
Industrial Technology	(See separate listings under Manufacturing, Plastics, and Civil Engineering Technology: Water/Wastewater Options)						
Intercollegiate Liberal Arts	59.101-011	Values & Creative Thinking	9:45-11:45 am	M-Th	3	Department Faculty	
Languages	50.211-011	Intermediate Conversational French I	7:00-10:00 pm	M/W	3	Area II	Department Faculty
	51.211-011	Intermediate German I	7:00-10:00 pm	T/Th	3	P: 51.102, Area II	Robert Whelan
	51.491-011	Twentieth Century German Literature	6:00-9:00 pm	T/Th	3	Directed Study	Robert Whelan
	52.330-011	Cinema & the Italian Americans	9:45-11:45 am	M-Th		Area II, VC, AE (in English)	Mario Aste
	52.378-011	Italian Cinema and Culture	Noon-2:00 pm	M-Th	3	Area II, HV, Conducted in English	Mario Aste
	53.101-011	Beginning Japanese I	7:00-10:00 pm	T/Th	3		Department Faculty
	53.103-011	Beginning Russian I	7:00-10:00 pm	M/W	3		Department Faculty
	54.101-011	Beginning Spanish I	7:30-9:30 am	M-Th	3		Heli Hernandez
	54.101-012	Beginning Spanish I	7:00-10:00 pm	M/W	3		Department Faculty
	54.211-011	Intermediate Conversational Spanish I	9:45-11:45 am	M-Th	3	P: 54.102 or equivalent, Area II	Heli Hernandez
	54.211-012	Intermediate Conversational Spanish I	7:00-10:00 pm	T/Th	3	P: 54.102 or equivalent, Area II	Department Faculty
	54.254-011	Topics in Conversational Spanish	6:00-9:00 pm	T/Th	3		Department Faculty
	CERTIFICATE IN SPANISH (See page 20.)						
Legal Studies (also see Paralegal Studies)	41.262-011	Introduction to Business Law	7:00-10:00 pm	T/Th	3	BS, Collateral to Criminal Justice	Eugene Reardon
	41.367-011	Environmental Law	9:45-11:45 am	M-Th	3		William Burke
	41.367-012	Environmental Law	7:00-10:00 pm	T/Th	3		William Burke
	41.370-011	Real Estate Law	7:00-10:00 pm	T/Th	3		J. Alan Roberts
	41.376-011	Family Law	7:30-9:30 am	M-Th	3		Russell Karl
	41.376-012	Family Law	7:00-10:00 pm	M/W	3		Russell Karl
	41.381-011	Women and the Law	7:00-10:00 pm	T/Th	3		Jane McElligott
	41.387-011	Legal Research Methods (Lab Fee)	7:00-10:00 pm	M/W	3		Jane McElligott
	41.390-011	Litigation	7:00-10:00 pm	T/Th	3		Michael Martell
	41.395-011	Bankruptcy Law	7:00-10:00 pm	T/Th	3		Peter Stocks
	41.363-011	Corporate & Property Law	7:00-10:00 pm	T/Th	3		Eugene Reardon
	Management	(For restrictions on courses marked +, refer to page 5 under College of Management AACSB Accredited Courses.)					
63.210-011		Operations Analysis	7:30-11:45 am	TBA	3	P: 49.211	M. Riaz Khan
+63.371-011		Operations Management I	7:30-9:30 am	M-Th	3		George Liaw
63.475-011		Computer Simulation Manufacturing System	6:00-9:00 pm	T/Th	3		James Monihan
+66.301-011		Organizational Behavior	9:45-12:45 pm	M/W	3	P. 63.371	Stuart Freedman
+66.435-011		Comparative Management (6/1 - 6/27)	9:45-12:45 pm	M/Th	3	P: 60 credits	David Lewis
+66.490-011		Strategic Management	9:30-12:45 pm	M/W	3	P: 61.301, 62.201, 63.371, 66.301, & 96 credits; dept. permission	Louis Zivic
69.231-011		Business Finance	7:00-10:00 pm	M/W	3	P: 67.102, 49.201, 49.202	Mel Epstein
69.232-011		Money and Banking	7:00-10:00 pm	T/Th	3	P: 49.201, 49.202	Franklin Inman Jr.
69.253-011		Intro to Management & Org. Behavior	7:00-10:00 pm	M/W	3		P. Zicari
69.271-011		Operations Management	7:00-10:00 pm	T/Th	3	P: 49.211	George Liaw
69.277-011		Leadership in Management	7:00-10:00 pm	M/W	3		Sharon Lovins
NOTE: The above courses with 69 prefixes are not intended for matriculating University of Massachusetts Lowell day students and will not transfer into the College of Management day programs.							
CERTIFICATE IN PURCHASING MANAGEMENT (See page 20.)							

Academic Credit Course Listing

Marketing	(For restrictions on courses marked with a '+', refer to page 5 under College of Management AACSB Accredited Courses.)						
	62.201-011	Marketing Principles	7:00-10:00 pm	T/Th	3	P: 47.101, 48.101, 49.201	Mel Epstein
	+62.303-011	Global Marketing Management	9:45 am-12:45	M/W	3	P: 62.301	Eunsang Yoon
Mathematics	90.111-011*	Fundamental of Algebra	7:00-10:00 pm	T/Th	3		Anthony Sokolowski
	92.110-011	College Algebra	Noon-2:00 pm	M-Th	3	Liberal Arts majors only, Area III	Stanley Spiegel
	92.111-011	Mathematical Perspectives	9:45-11:45 am	M-Th	3	Liberal Arts majors only, Area III, MA	Stanley Spiegel
	92.115-011	College Trigonometry	7:00-10:00 pm	T/Th	3	P: 92.121, MA	Department Faculty
	92.121-011**	Precalculus Mathematics	9:45-11:45 am	M-Th	3	P: 90.111 or placement exam,*** Area III, MA	Department Faculty
	92.121-012**	Precalculus Mathematics	7:00-10:00 pm	T/Th	3	P: 90.111 or placement exam,*** Area III, MA	Ronald Brent
	92.122-011	Differential Calculus	7:30-9:30 am	M-Th	3	P: 92.121, Area III, MA	John Burke
	92.125-011	Calculus A	7:00-10:00 pm	T/Th	3	P: 92.121, Area III, MA	John Savinelli
	92.126-011	Calculus B	7:00-10:00 pm	T/Th	3	P: 92.125, MA	Theresa Saracusa
	92.127-011	Calculus IA	9:45-11:45 am	M-F	4	MA	John Burke
	92.128-011	Calculus IB	9:45-11:45 am	M-F	4	P: 92.127, MA	Department Faculty
	92.131-011	Calculus I	9:45-11:45 am	M-F	4	MA	James Graham-Eagle
	92.131-012	Calculus I	7:30-9:30 am	M-F	4	MA	Alan Kaplan
	92.132-011	Calculus II	7:30-9:30 am	M-F	4	P: 92.131, MA	Marvin Stick
	92.132-012	Calculus II	9:45-11:45 am	M-F	4	P: 92.131, MA	Marvin Stick
	92.183-011	Introduction to Statistics	7:30-9:30 am	M-Th	3	P: 90.111 or equivalent, Area III, MA	Alexander Olsen
	92.183-012	Introduction to Statistics	7:00-10:00 pm	T/Th	3	P: 90.111 or equivalent, Area III, MA	E. Schissler
	92.201-011	Integral Calculus	9:45-11:45 am	M-Th	3	P: 92.122, Area III, MA	Alan Kaplan
	92.202-011	Microcomputers & (Lab Fee) Applications Software	7:30-9:30 am	M-Th	3	SC	Susan L'Italien
	92.202-012	Microcomputers & (Lab Fee) Applications Software	6:00-9:00 pm	M/W	3	SC	Michael Beaulieu
	92.202-013	Microcomputers & (Lab Fee) Applications Software	7:00-10:00 pm	T/Th	3	SC	Dennis Roffman
	92.202-014	Microcomputers & (Lab Fee) Applications Software	7:00-10:00 pm	T/Th	3	SC	Ernest Johnson
	92.225-011	Calculus C	7:00-10:00 pm	T/Th	3	P: 92.126, MA	Philip Breen
	92.226-011	Calculus D	7:00-10:00 pm	T/Th	3	P: 92.225, MA	Dorothy Greenler
	92.231-011	Calculus III	9:45-11:45 am	M-F	4	P: 92.132, MA	Ashot Shahinian
	92.234-011	Differential Equations	9:45-11:45 am	M-Th	3	P: 92.132 or 92.225, MA	Rida Mirie
	92.234-012	Differential Equations	7:00-10:00 pm	T/Th	3	P: 92.132 or 92.225, MA	Rida Mirie
	92.263-011	FORTRAN Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.112 or 92.121 or equivalent, SC	James Brzowski
	92.265-011	Pascal Programming (Lab Fee)	9:45-11:45 am	M-Th	3	P: 90.112 or 92.121 or equiv, Area III, SC	Ann Marie Hurley
	92.265-012	Pascal Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.112 or 92.121 or equiv, Area III, SC	James Brzowski
	92.267-011	C Programming (Lab Fee)**	Noon-2:00 pm	M-Th	3	P: 92.265, SC	Ann Marie Hurley
	92.267-012	C Programming (Lab Fee)**	6:00-9:00 pm	M/W	3	P: 92.265, SC	Joseph Russell
	92.267-013	C Programming (Lab Fee)**	7:00-10:00 pm	M/W	3	P: 92.265, SC	Edward D'Entremont
	92.267-014	C Programming (Lab Fee)**	6:00-9:00 pm	T/Th	3	P: 92.265, SC	Timothy Niesen
	92.267-015	C Programming (Lab Fee)**	7:00-10:00 pm	T/Th	3	P: 92.265, SC	Paul Nagle
	92.268-011	C++ Programming (Lab Fee)	7:30-9:30 am	M-Th	3	P: 92.267, SC	Paul Nagle
	92.268-012	C++ Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.267, SC	Mark Hertel
	92.268-013	C++ Programming (Lab Fee)	6:00-9:00 pm	M/W	3	P: 92.267, SC	Lance Smith
	92.301-011	Introduction to Applied Mathematics I	9:45-11:45 am	M-Th	3	P: 92.226 or 92.231	James Graham-Eagle
	92.321-011	Discrete Structures I	3:00-6:00 pm	T/Th	3	P: 90.112 or 92.121	Alan Doerr
	92.322-011	Discrete Structures II	Noon-2:00 pm	M-Th	3	P: 92.321 and 92.231, 92.234	Alan Doerr
	92.363-011	Intro to Data Analysis (SPSSX) (Lab Fee)	9:45-11:45 am	M-Th	3	P: 92.183 or equivalent	Alexander Olsen
	92.365-011	COBOL Programming I (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.209 or 92.219	Thomas Flaherty
	92.386-011	Statistics for Engineering and Science	9:45-11:45 am	M-Th	3	P: 92.126 or 92.132	Lee Jones
	92.411-011	Complex Variables I	9:45-11:45 am	M-Th	3	P: 92.231 or 92.226	Department Faculty
	92.416-011	Pattern Recognition and Neural Networks	5:30-8:30 pm	T/Th	3	P: 92.386/Linear Algebra, or equivalent	Lee Jones
	92.420-011	Mathematic Problem Solving	6:00-9:00 pm	T/Th	3	P: Calculus II or equivalent	Kenneth Levassuer
	92.421-011	Abstract Algebra I	Noon-2:00 pm	M-Th	3	P: 92.221 or 92.321	Alan Doerr
	92.450-011	Mathematical Modeling	5:30-8:30 pm	T/Th	3	P: Senior standing	James Graham-Eagle
	92.480-011	Applied Combinatorics	5:30-8:30 pm	M/W	3	P: Calculus and Discrete Structures	Mark Yin
*Fundamentals of Algebra (90.111) is a preparatory course and cannot be credited toward a degree program at the University of Massachusetts Lowell.							
**Students may not receive credit for both 90.112 and 92.121. Students may not receive credit for both 92.211 and 92.267.							
***Placement exam is given the first evening of class. Many 500-level courses are well within the grasp of upper level undergraduates and may be used as electives. Refer to the Graduate School listing and contact the Graduate School for admissions procedures. University of Massachusetts Lowell Day students must have approval from the mathematics coordinator before taking courses with a 90 prefix.							
Mechanical Engineering	22.211-011	Mechanics I	7:30-9:30 am	M-Th	3		Department Faculty
	22.213-011	Dynamics (7 wks)	9:45-11:45 am	MWF	3	P: 22.211, 92.225 or 92.231	J. McKelligett
	22.295-011	Material Science and Engineering	7:30-9:30 am	M-Th	3	P: 84.122, 95.144, 25.101, 25.102	Department Faculty
	22.344-011	Heat Transfer	9:45-11:45 am	M-Th	3	P: 22.381	E. Niemi
	22.403-011	Mech. Eng'g. Lab II: Measuremnt Eng'g. (lab fee)	4:00-7:00 pm	T/Th	2 (3)	P: 22.302, 311, 344, 354, 381	Department Faculty
Mechanical Engineering Technology & Manufacturing Option	23.101-011	Engineering Graphics I	7:00-10:00 pm	T/Th	2 (3)		Chris Demetriou
	23.200-011	CADrf* (Lab Fee)	7:00-10:00 pm	M/W	3	P: 23.102	Norman Truscott
	23.221-011	Statics	7:00-10:00 pm	M/W	3	P: 92.125,92.263, 99.131	Marilynn Keppler
	23.241-011	Elements of Thermodynamics I	7:00-10:00 pm	T/Th	3	P: 92.126, 92.263, 99.132	Vernon Oliver
	23.418-011	Quality Work Teams	7:00-10:00 pm	M/W	3		C. Marchand-Fournier
*Some additional projects are required for this course CERTIFICATE IN MANUFACTURING TECHNOLOGY (See page 20.)							
Multimedia Applications	(See Computer Mathematics and Computer Science)						
Music	71.100-011	Fundamentals of Musicianship	7:00-10:00 pm	M/W	3	Music majors only	Jacqueline Charette
	71.102-011	Music Theory II	7:30-9:30 am	M-Th	3	P: 71.101	Lisa Cleveland
	71.104-011	Solfege II	9:45-11:45 am	M-Th	3	P: 71.103	Mark Peterson
	71.110-011	Basic Music Theory	9:45-11:45 am	M-Th	3	Non-Music majors, Area II, AE	Christopher McGahan
	71.110-012	Basic Music Theory	7:00-10:00 pm	M/W	3	Non-Music majors, Area II, AE	Juanita Tsu
	71.201-011	Music Theory III	7:30-9:30 am	M-Th	3	P: 71.102	Mark Peterson
	71.203-011	Solfege III	9:45-11:45 am	M-Th	3	P: 71.104	Lisa Cleveland
	74.261-011	Survey of Music History I	7:30-9:30 am	M-Th	3		John Ogasapian
	74.262-011	Survey of Music History II	9:45-11:45 am	M-Th	3		John Ogasapian
Operations Mgmt/ Info Systems	63.210-011	Operations Analysis Techniques	7:30-11:45 am	M/W	3		M. Riaz Khan
	+63.371-011	Operation Management I	7:30-9:30 am	M-Th	3	P: 63.201	George Liaw
Paralegal (also see Legal Studies & Criminal Justice)	41.103-011	Introduction to Paralegal Studies	7:00-10:00 pm	T/Th	3	BS	Donna Zils Banfield
	41.363-011	Corporate and Property Law	7:00-10:00 pm	T/Th	3		Eugene Reardon
	41.370-011	Real Estate Law	7:00-10:00 pm	T/Th	3		J. Alan Roberts
	41.376-011	Family Law	7:30-9:30 am	M-Th	3		Russell Karl
	41.376-012	Family Law	7:00-10:00 pm	M/W	3		Russell Karl
	41.387-011	Legal Research Methods (Lab Fee)	7:00-10:00 pm	M/W	3		Jane McElligott
	41.390-011	Litigation	7:00-10:00 pm	T/Th	3		Michael Martell
	44.435-011	Alternative Dispute Resolution	7:00-10:00 pm	M/W	3		Ann O'Connor Downes
	44.497-011	Paralegal Practicum	Time: TBA	TBA	3	P: minimum of 3 paralegal courses	Donna Banfield Zils
Please see admission requirements to the Paralegal Certificate on page 20.							

Academic Credit Course Listing

Philosophy	45.201-011	Introduction to Philosophy	7:00-10:00 pm	M/W	3	Area II and VC, HV	Donald LeBlanc
	45.201-012	Introduction to Philosophy	6:00-9:00 pm	T/Th	3	Area II and VC, HV	Michael Koran
	45.202-011	Introduction to Logic	9:45-11:45 am	M-Th	3	Area II and VC, HV	Department Faculty
	45.203-011	Introduction to Ethics	7:00-10:00 pm	M/W	3	Area II and VC, HV	Tracey Stark
	45.203-011	Introduction to Ethics	9:45-11:45 am	M-Th	3	Area II and VC, HV	Elizabeth Gleason
Physics	95.103-011	General Physics I	9:45-11:45 am	M-Th	3	P: Algebra; C: 96.103, SC	Arthur Mittler
	95.121-011	Exploring the Universe	7:30-9:30 am	M-Th	3	C: 96.121, Area III, SC	Paul Ring
	95.141-011	Physics I	7:30-9:30 am	M-F	3 (4)	C: 92.131, 96.141, SC	F. Raymond Hardy
	95.144-011	Physics II	9:45-11:45 am	M-F	3 (4)	P: 95.141; C: 92.132, 96.144, SC	Roger McLeod
	95.245-011	Physics III	9:45-11:45 am	M-F	3 (4)	P: 95.144, 92.132; C: 92.231, 96.245, SC	Paul Ring
	96.103-011	Experimental General Physics I (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	C: 95.103 or 95.201, SC	Department Faculty
	96.141-011	Experimental Physics I (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	C: 95.141, SC	F. R. Hardy
	96.144-011	Experimental Physics II (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	P: 96.141; C: 95.144, SC	Department Faculty
	96.245-011	Experimental Physics III (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	P: 96.144; C: 95.245, SC	Department Faculty
	99.101-011	Radiation and Life	9:45-11:45 am	M-Th	3	SC; C: 99.102; Area III	Iris Nogueira
	99.102-011	Radiation and Life (Lab Fee)	2:15-5:15 pm	TBA	1 (2)	C: 99.101, SC, Area III	Iris Nogueira
Plastics	27.451-011	Selected Topics I: TBA	7:00-10:00 pm	M/W	3	P: Instructor permission	Stephen Driscoll
	27.452-011	Selected Topics II: TBA	7:00-10:00 pm	T/Th	3	P: Instructor permission	Stephen Driscoll
	Note: Courses with the 27 prefix are not eligible for graduate credit. CERTIFICATE IN PLASTICS ENGINEERING TECHNOLOGY (See page 20.)						
Political Science	46.101-011	Introduction to American Politics	7:00-10:00 pm	T/Th	3	Area I, BS	Francis Talty
	46.230-011	Law and the Legal System	7:00-10:00 pm	M/W	3		Patricia Sullivan Talty
	46.353-011	Public Administration	7:00-10:00 pm	M/W	3		Department Faculty
Psychology	47.101-011	General Psychology	9:45-11:45 am	M-Th	3	Area I, BS	Ronald Pickett
	47.101-012	General Psychology	7:00-10:00 pm	T/Th	3	Area I, BS	Daryl Graves
	47.209-011	Social Psychology	7:30-9:30 am	M-Th	3	Area I, Human Values, BS	Victoria Bacon
	47.232-011	Psychology of Personality	Noon-2:00 pm	M-Th	3	Area I, BS	Joan Cannon
	47.260-011	Human Development I	7:00-10:00 pm	M/W	3	Area I, BS	Phyllis Wentworth
	47.260-012	Human Development I	9:45-11:45 am	M-Th	3	Area I, BS	Masahiko Minami
	47.269-011	Research Methods	Noon-2:00 pm	M-Th	3	P: 47.101	Mary Duell
	47.272-011	Abnormal Psychology	7:30-9:30 am	M-Th	3	P: 47.101, Area I, BS	Richard Siegel
	47.276-011	Theories of Learning	6:00-9:00 pm	M/W	3		Maria Michailides
	47.328-011	Dynamics of Interpersonal Relations	7:30-9:30 am	M-Th	3	Area I	Kimberly Burns
	47.328-012	Dynamics of Interpersonal Relations	7:00-10:00 pm	M/W	3	Area I	Noel Cartwright
	47.335-011	Psychology of Women	9:45-11:45 am	M-Th	3	Area I, Human Values	Berna Haberman
	47.360-011	Human Development II	7:30-9:30 am	M-Th	3	P: 47.260	Kevin Callahan
	47.361-011	Prob./Issues in Child/Adolescent Psych.	7:00-10:00 pm	T/Th	3		Jean Saunders
	47.473-011	Seminar: Social Psychology	2:15-5:15 pm	M/W	3		Peter Hantzis
	47.474-011	Seminar in Developmental Psychology	9:45-11:45 am	M-Th	3	P: 47.260, 47.269 or instructor permissn	Joan Cannon
(See Physics)							
Radiological Sciences							
Sociology	48.101-011	Introduction to Sociology	7:30-9:30 am	M-Th	3	Area I, BS	Levon Chorbajian
	48.101-012	Introduction to Sociology	7:00-10:00 pm	T/Th	3	Area I, BS	Levon Chorbajian
	48.220-011	Self-Assessment/Career Development	7:00-10:00 pm	T/Th	3		Leonard Harlow
	48.231-011	Sociology of the Family	7:00-10:00 pm	M/W	3	Area I, BS	Department Faculty
	48.241-011	Women in Society	9:45-11:45 am	M-Th	3	Area I, Human Values, BS	Department Faculty
	48.317-011	Sociology of Genocide	7:00-10:00 pm	M/W	3		Jack Porter
Technical Writing	(Technical Writing courses are open to undergraduate and graduate students.)						
	42.403-011	Advanced Software Writing (14 weeks)	7:00-10:00 pm	Tues	3	P: 42.402	John Garison
CERTIFICATE IN TECHNICAL WRITING (See page 20 for required courses.)							
Water/Wastewater Option	(See Civil Engineering Technology: Water/Wastewater Option.)						

REMINDER: CHECK COURSE NUMBERS AND PREREQUISITES TO ENSURE ENROLLMENT IN THE CORRECT CLASS.

Summer Session II

July 8 – August 15, 1996

Day Classes

begin on July 8.

3 credit courses

meet Monday through Thursday;

4 credit day courses

meet Monday through Friday

M/W Evening Classes

begin on July 8 and include 2 FRIDAYS:

July 19, August 2 at the regularly scheduled hours.

T/Th Evening Classes

begin on July 9 and include 2 FRIDAYS:

July 26, August 9 at the regularly scheduled hours.

	No.	Title	Time	Days	Cr (Co)	P: Prerequisite/ Corequisite/Other	Instructor
Accounting	60.202-021	Accounting/Managerial	9:45-11:45 am	M-Th	3	P: 60.201	Anthony Carbone
	67.101-021	Accounting Principles I	7:00-10:00 pm	M/W	3		Claire Bickford
	67.102-021	Accounting Principles II	7:00-10:00 pm	M/W	3	P: 67.101	John Keelan
	60.202 is for students with some accounting/business experience. 67.101 is for students with no accounting experience.						
	Students may not receive credit for both 60.201 and 67.101.						
The above courses with the 67 prefix are not intended for matriculating in the Bachelor of Science degree program in the College of Management.							
CERTIFICATE IN ACCOUNTING (See page 20 for required courses.)							
Art	70.265-021	Computer Art I Studio (Lab Fee)	9:00-12:30 pm	M-Th	3		Department Faculty
	70.461-021	Photoworkshop In Finland	Time: TBA	TBA	3	Instructor Permission	Arno Minkkinen
	70.461-022	Photoworkshop of Finland	Time: TBA	TBA	6	Instructor Permission	Arno Minkkinen
	70.496-021	Practicum in Studio Art	Time: TBA	TBA	3	P: permission of Art Department	Department Faculty
	72.151-021	Stagecraft Internship	Time: TBA	TBA	1	Instructor Permission	William Brackett
	79.101-021	Art Appreciation	7:00-10:00 pm	T/Th	3	AE, HSA, Area II	Charles Guiliano
	79.494-021	Directed Study in Art History	Time: TBA	TBA	3	P: permission of Art History Coordinator	Department Faculty
	79.496-021	Practicum in Art History	Time: TBA	TBA	3	P: perm. of Art History Coordinator	Department Faculty
Banking	69.106-021	Real Estate Finance	7:00-10:00 pm	M/W	3		Department Faculty
Biological Sciences	81.347-021	Human Nutrition	9:45-11:45 am	M-Th	3	P: Intro Biology or instr. permission, SC	Priscilla Mattson
	83.102-021	Life Science II	7:00-10:00 pm	M/W	3	Area III; C: 83.104, SC	Siu Lam Lee
	83.104-021	Life Science II Lab (Lab Fee)	7:00-10:00 pm	T/Th	1 (2)	C: 83.102, Area III, SC	Siu Lam Lee

Academic Credit Course Listing

Chemistry	84.112-021	General Chemistry II	Noon-2:00 pm	M-Th	3	P: 84.111, C: 84.114, SC P: 84.113; C: 84.112, SC P: 84.121; Science, Eng'g and Eng Tech majors; others with dept. permission; C: 84.124, SC	Susan McFarland Athena Letsou Judith Goldsberry
	84.114-021	General Chemistry Lab II (Lab Fee)	2:15-5:15 pm	TBA	1 (3)		
	84.122-021	Chemistry II	Noon-2:00 pm	M-Th	3		
	84.122-022	Chemistry II	6:00-9:00 pm	M/W	3	P: 84.121; Science, Eng'g and Eng Tech majors; others with dept. permission; C: 84.124, SC	Peter Gabriel
	84.124-021	Chemistry Lab II (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	P: 84.123; C: 84.122, SC	Department Faculty
	84.124-022	Chemistry Lab II (Lab Fee)	7:00-10:00 pm	T/Th	1 (3)	P: 84.123; C: 84.122, SC	Department Faculty
	84.222-021	Organic Chemistry II	Noon-2:00 pm	M-Th	3	P: 84.221; C: 84.230, SC	Department Faculty
Cinema	84.230-021	Organic Chemistry Lab II (Lab Fee)	2:15-5:15 pm	TBA	1 (4)	P: 84.229; C: 84.222, SC	Department Faculty
	86.132-021	Environmental Chemistry II	7:00-10:00 pm	M/W	3	P: 86.131, SC	Charles Panagiotakos
	52.374-021	Classics of Italian Cinema	9:45-11:45 am	M-Th	3	Area II, Human Values, in English, AE	Mario Aste
	52.380-021	Italian Cinema:Directors & Themes	7:30-9:30 am	M-Th	3	Area II, HV, AE (in English)	Mario Aste
	14.204-021	Strength of Materials	7:30-9:30 am	M-Th	3	P: 14.203	Department Faculty
	14.205-021	Dynamics	9:45-11:45 am	M-Th	3	P: 14.203, 92.132	Department Faculty
	22.212-021	Mechanics of Materials	7:30-9:30 am	M-Th	3	P: 22.211, 92.225, or 92.231	Department Faculty
Civil Engineering Technology	15.113-021	CAD (Lab Fee)	7:00-10:00 pm	M/W	2 (3)	P: 23.101	C. Lincoln
	15.420-021	Solid Waste Management	7:00-10:00 pm	T/Th	3	P: jr. status or permission of Nihar Mohanty	
	86.132-021	Environmental Chemistry II	7:00-10:00 pm	M/W	3	P: 86.131	Charles Panagiotakos
	CERTIFICATE IN ENVIRONMENTAL TECHNOLOGY (See page 20 for required courses.) CERTIFICATE IN LAND SURVEYING (See page 20.)						
Civil Eng'g Tech: Water/Wastewater Option	15.152-021	Water Biology	7:00-10:00 pm	M/W	3		Therese Champigny
	15.280-021	Industrial Waste Treatment	7:00-10:00 pm	M/W	3		Paul Doran
	86.132-021	Environmental Chemistry II	7:00-10:00 pm	M/W	3	P: 86.131	Charles Panagiotakos
	CERTIFICATE IN WATER TREATMENT (See page 20 for required courses.)						
	CERTIFICATE IN WASTEWATER TREATMENT (See page 20 for required courses.)						
Computer Mathematics	90.230-021	Intro to Multimedia/Mac (Lab Fee)	7:00-10:00 pm	T/Th	3		Mitch Shuldman
	90.230-022	Intro to Multimedia/Windows (Lab Fee)	7:00-10:00 pm	M/W	3		Laurie Stevens
	90.231-021	Graphics for Multimedia/Mac (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.230	Marina Javis
(also see Computer Science)	90.232-021	Desktop Video Prdctn/Windows (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.230	Beatrice Lee
	90.232-022	Desktop Video Prdctn/MAC (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.230	Department Faculty
	90.233-021	Multimedia Authoring Software (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.230	Jonathan Adams
		Using Macromedia's Director/Windows					
	90.238-021	Designing Multimedia for the (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.231	Department Faculty
		World Wide Web/Mac					
	90.238-022	Designing Multimedia for the (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.231	Department Faculty
		World Wide Web/Windows					
	90.239-021	Multimedia Scripting Using (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.233	Jeff Cummings
		Macromedia Director's Lingo/MAC					
	91.113-021	Exploring the Internet (Lab Fee)	Noon-2:00 pm	M-Th	3		Department Faculty
	91.113-022	Exploring the Internet (Lab Fee)	7:00-10:00 pm	T/Th	3		Department Faculty
	90.476-021	Novell Lan Technology (Lab Fee)	7:00-10:00 pm	M/W	3		Joseph Nielson
	90.478-021	Novell Adv Lan Admin/Windows (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 90.477	Peter Alberti
	92.481-021	Novell Netwrk Troubleshooting (Lab Fee)	9:00am-5:00pm	M-Th	3	Meets Aug.19-Aug.23	Tony Forgetta
	92.202-021	Microcomputers & (Lab Fee)	7:30-9:30 am	M-Th	3	SC	Susan L'Italien
		Application Software					
	92.202-022	Microcomputers & (Lab Fee)	7:00-10:00 pm	M/W	3	SC	Susan L'Italien
		Application Software					
	92.202-023	Microcomputers & (Lab Fee)	6:00-9:00 pm	T/Th	3	SC	Dennis Roffman
		Application Software					
	92.211-021*	Intro to Programming with C (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.121 or equivalent, SC	Department Faculty
	92.219-021	BASIC Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.111 or working knowledge of another programming language or E.E.T. major, SC	Department Faculty
	92.220-021	Visual Basic (Lab Fee)	7:00-10:00 pm	T/Th	3		Department Faculty
	92.265-021	Pascal Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.112 or 92.121 or equiv, Area III, SC	James Brzowski
	92.267-021*	C Programming (Lab Fee)	Noon-2:00 pm	M-Th	3	P: 92.265, SC	Department Faculty
	92.267-022*	C Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.265, SC	Paul Nagle
	92.267-023*	C Programming (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.265, SC	Timothy Niesen
	92.268-021	C++ Programming (Lab Fee)	7:30-9:30 am	M-Th	3	P: 92.267, SC	Paul Nagle
	92.268-022	C++ Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.267, SC	Brian Hodges
	92.268-023	C++ Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.267, SC	Mark Hertel
	92.311-021	Intro to the UNIX Operating Sys. (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.267 or 92.211 and 92.364, SC	Department Faculty
	92.312-021	UNIX Shell Programming (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.311	Michael Richards
	92.360-021	Intro to Data Structures/C (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.267 or 92.211 and 92.364	Department Faculty
	92.455-021	Assembly Language	6:00-9:00 pm	T/Th	3		Antonio Gellineau
	92.472-021	Local Area Networks	7:00-10:00 pm	M/W	3	P: 92.470	Raymond Vigeant
	92.478-021	Information Systems II	7:00-10:00 pm	T/Th	3	P: 92.477	R.L. Pitcher
*Students may not receive credit for both 92.211 and 92.267.							
CERTIFICATE IN COMPUTER PROFICIENCY (See page 20 for required courses.)							
CERTIFICATE IN DATA TELECOMMUNICATIONS (See page 20 for required courses.)							
CERTIFICATE IN UNIX (See page 20 for required courses.)							
CERTIFICATE IN MULTIMEDIA APPLICATIONS (See page 20 for required courses.)							
CERTIFICATE IN INTERNET SYSTEM ADMINISTRATION (See page 20 for required courses.)							
CERTIFICATE IN WINDOWS DEVELOPMENT PROGRAMMING (See page 20 for required courses.)							
Computer Science	91.113-021	Exploring the Internet (Lab Fee)	9:45-11:45 am	M-Th	3		Department Faculty
	91.113-022	Exploring the Internet (Lab Fee)	7:00-10:00 pm	T/Th	3		Department faculty
	91.371-021	Internet System Administration (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.311 (Offered overInternet)*	Department Faculty
	91.372-021	Managing Internet Info Services (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.311 (Offered over Internet)*	William Ostaski
	91.373-021	HTML Development & (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.311	David Scuito
(also see Computer Mathematics)		CGI Programming					
	91.472-021	Security Issues on the Internet	7:00-10:00 pm	T/Th	3	P: permission of instructor	Antonio Gellineau
*CALL FOR ADDITIONAL INFORMATION							
Criminal Justice	44.201-021	Computer Applications in C.J. (Lab Fee)	7:30-9:30 am	M-Th	3		Joseph Lipchitz
	44.234-021	Criminal Law	7:00-10:00 pm	T/Th	3		Anthony Petrosino
	44.312-021	Security Management	7:00-10:00 pm	M/W	3		John Pignato
(also see Paralegal Studies)	44.351-021	Community Based Corrections	7:00-10:00 pm	M/W	3		James Byrne
	44.373-021	Issues in Police Administration	9:45-11:45 am	M-Th	3		F. Paison
	44.380-021	Selected Issues: Stress Mgt. for Law Enf.	7:30-9:30 am	M-Th	3		J. Tully
	44.380-022	Selected Issues: Sentencing	7:00-10:00 pm	TBA	3		James Byrne
	44.380-023	Selected Issues: Sex Offenders	7:30-9:30 am	M-Th	3		Anthony Petrosino
	44.496-021	Criminal Justice Practicum	Time: TBA	TBA	3		Eve Buzawa
CERTIFICATE IN SECURITY MANAGEMENT (See page 20 for required courses.)							

Academic Credit Course Listing

Economics	49.201-021	Economics I (Microeconomics)	9:45-11:45 am	M-Th	3	Area I, BS	Albert Cederlund
	49.201-022	Economics I (Microeconomics)	7:00-10:00 pm	M/W	3	Area I, BS	Department Faculty
	49.202-021	Economics II (Macroeconomics)	9:45-11:45 am	M-Th	3	Area I, BS	Michael Carter
	49.202-022	Economics II (Macroeconomics)	7:00-10:00 pm	T/Th	3	Area I, BS	Michael Carter
	49.211-021	Statistics I	7:30-9:30 am	M-Th	3	P: 92.122 or equivalent,BS	Department Faculty
	49.212-021	Statistics II	7:00-10:00 pm	T/Th	3	P: 49.211, BS	Thomas Macbeth
	49.321-021	International Trade Partnerships	6:00-9:00 pm	M/W	3		Zanaqui Brahim
	CERTIFICATE IN INTERNATIONAL TRADE (See page 20 for required courses.)						
Electrical Engineering	16.202-021	Introduction to Circuit Theory II	Time: TBA	TBA	3	P: 16.201, 95.245; C: 16.208	Department Faculty
	16.208-021	Basic E. E. Lab II (Lab Fee)	Time: TBA	TBA	2 (4)	P: 16.207; C: 16.202	Department Faculty
	16.211-021	Fundamentals of Electricity	7:00-10:00 pm	T/Th	3	P: 92.132, 95.144	Ajay Noushin
	16.312-021	Electronics II Laboratory (Lab Fee)	Time: TBA	TBA	2 (4)	P: 16.311; C: 16.366	Department Faculty
	16.366-021	Electronics II	Time: TBA	TBA	3	P: 16.365; C: 16.312	Department Faculty
	16.410, 411, 412	Directed Studies	Time: TBA	TBA	3		Department Faculty
	16.461-021	Electromagnetic Theory II	Noon-2:00 pm	M-Th	3	P: 16.315, 16.360	Tenneti Rao
Electronic Engineering Technology	17.431-021	Electromagnetic Compatibility	7:00-10:00 pm	T/Th	3	P: 17.376	Albert Paradis
	CERTIFICATE IN ELECTRO-OPTICS (See page 20.)						
English	42.101-021	College Writing I	7:30-9:30 am	M-Th	3		Department Faculty
	42.101-022	College Writing I	7:00-10:00 pm	M/W	3		Department Faculty
	42.102-021	College Writing II	9:45-11:45 am	M-Th	3	P: 42.101	Department Faculty
	42.102-022	College Writing II	7:00-10:00 pm	T/Th	3	P: 42.101	Department Faculty
	42.104-021	College Writing II for Internatnl Students	7:00-10:00 pm	M/W	3	P: 42.103	Linda Berube
	42.212-021	The Short Story	7:00-10:00 pm	M/W	3	P: 42.102, Area II, LT	Department Faculty
	42.217-021	The Horror Story	9:45-11:45 am	M-Th	3	P: 42.102, Area II, LT	H. Venuti
	42.220-021	Personal and Reflective Writing	7:00-10:00 pm	M/W	3	P: 42.102	J. Dickerman-Nelson
	42.224-021	Business Writing	7:00-10:00 pm	M/W	3	P: 42.102	Rosalie Ryan
	42.226-021	Technical and Scientific Communication	6:30-9:30 pm	T/Th	3	P: 42.102	Dirk Messelaar
	42.232-021	Writers of the Merrimack Valley	7:00-10:00 pm	T/Th	3	P: 42.102, LT	Terry Farrish
	42.292-021	History of English Literature II	7:00-10:00 pm	M/W	3	P: 42.102, Area II, LT	Department Faculty
	42.295-021	History of American Literature II	7:00-10:00 pm	T/Th	3	P: 42.102, Area II, LT	Henry Venuti
	42.300-021	Journalism	7:00-10:00 pm	M/W	3	P: 42.102	Department Faculty
	42.301-021	Topics in Writing	7:00-10:00 pm	M/W	3		Department Faculty
Environmental Technology	(Also see offerings under Civil Engineering Technology, Chemistry, Environmental Sciences, Political Science, and Water/Wastewater Option)						
	15.420-021	Solid Waste Management	7:00-10:00 pm	T/Th	3	P: Junior status or instructor permission	Nihar Mohanty
	CERTIFICATE IN ENVIRONMENTAL TECHNOLOGY (See page 20 for required courses.)						
Health Professions	30.305-021	Exercise Physiology Lecture	9:45-11:45 am	M-F	4	P: Anatomy and Physiology, Chemistry	Paul Fieremonte
	30.307-021	Exercise Physiology Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (3)	C: 30.305	Paul Fieremonte
	35.102-021	Human Anatomy and Physiology II	9:45-11:45 am	M-Th	3	P: 35.101; C: 35.104, SC	John Prescott
	35.104-021	Human Anatmy & Physlgy II Lab (Lab Fee)	1:00-4:00 pm	TWTh	1 (3)	P: 35.103; C: 35.102, SC	Alease Bruce
History	43.106-021	The Modern World	7:30-9:30 am	M-Th	3	Area II, HS	Department Faculty
	43.112-021	U.S. History Since 1877	9:45-11:45 am	M-Th	3	Area II, HS	P. Hill-Zeigler
	43.379-021	The Second World War	7:00-10:00 pm	M/W	3	Area II, HS	Donald Matheisen
	43.365-021	U.S. History Since 1960	7:00-10:00 pm	T/Th	3	Area II, HS	William Jordan
Industrial Technology	(See separate listings under Manufacturing, Plastics, and Water/Wastewater Options)						
Languages	50.212-021	Intermediate Conversational French II	7:00-10:00 pm	T/Th	3	P: 50.211 or equivalent, Area II	Department Faculty
	51.212-021	Intermediate German II	7:00-10:00 pm	T/Th	3	P: 51.211, Area II	Robert Whelan
	51.491-021	Twentieth Century German Literature	6:00-9:00 pm	T/Th	3	Directed Study	Robert Whelan
	52.374-021	Classics of Italian Cinema	9:45-11:45 am	M-Th	3	Area II and Human Values, VC	Mario Aste
	52.380-021	Italian Cinema Directors & Themes	7:30-9:30 am	M-Th	3	Area II, AE, VC (in English)	Mario Aste
	53.102-021	Beginning Japanese II	7:00-10:00 pm	T/Th	3	P: 53.101	Department Faculty
	53.104-021	Beginning Russian II	7:00-10:00 pm	M/W	3	P: 53.103	Department Faculty
	54.102-021	Beginning Spanish II	7:30-9:30 am	M-Th	3	P: 54.101 or equivalent	John Staulo
	54.102-022	Beginning Spanish II	7:00-10:00 pm	M/W	3	P: 54.101 or equivalent	Department Faculty
	54.212-021	Intermediate Conversational Spanish II	9:45-11:45 am	M-Th	3	P: 54.211 or equivalent, Area II	John Staulo
	54.212-022	Intermediate Conversational Spanish II	7:00-10:00 pm	T/Th	3	P: 54.211 or equivalent, Area II	Department Faculty
Legal Studies (also see Paralegal Studies)	41.262-021	Introduction to Business Law	7:00-10:00 pm	M/W	3	BS, Collateral Criminal Justice	Eugene Reardon
	41.363-021	Corporate and Property Law	7:00-10:00 pm	T/Th	3		Eugene Reardon
	41.365-021	Legal Environment	7:00-10:00 pm	M/W	3	Human Values	James Gaffney
	41.367-021	Environmental Law	7:00-10:00 pm	M/W	3		Frank Grimaldi
	41.370-021	Real Estate Law	7:00-10:00 pm	T/Th	3		Russell Karl
	41.381-021	Women and the Law	9:45-11:45 am	M-Th	3		Jane McElligott
	41.387-021	Legal Research Methods (Lab Fee)	7:00-10:00 pm	T/Th	3		Jane McElligott
Management	62.201-021	Marketing Principles	7:00-10:00 pm	M/W	3	P: 47.101, 48.101, 49.201	Mel Epstein
	69.276-021	Entrepreneurial Management of New & Small Enterprises	7:00-10:00 pm	T/Th	3		Mel Epstein
	69.251-021	Personnel Management	7:00-10:00 pm	T/Th	3		Department Faculty
	CERTIFICATE IN PURCHASING MANAGEMENT (See page 20.)						
Manufacturing Option	(See Mechanical Engineering Technology) CERTIFICATE IN MANUFACTURING TECHNOLOGY (See page 20.)						
Marketing	62.201-021	Marketing Principles	7:00-10:00 pm	M/W	3		Mel Epstein
Mathematics	90.111-021*	Fundamentals of Algebra	7:00-10:00 pm	M/W	3		Eugene Welch, Jr.
	92.111-021	Mathematical Perspectives	9:45-11:45 am	M-Th	3	Liberal Arts majors only, Area III, MA	Alan Kaplan
	92.115-021	College Trigonometry	7:00-10:00 pm	M/W	3	P: 92.121, MA	John Burke
	92.121-021**	Pre-Calculus Mathematics	7:30-9:30 am	M-Th	3	Area III, MA	Department Faculty
	92.121-022**	Pre-Calculus Mathematics	7:00-10:00 pm	M/W	3	P: 90.111 or placement exam,***	Robert Gravina
						Area III, MA	
	92.122-021	Differential Calculus	9:45-11:45 am	M-Th	3	P: 92.121, Area III, MA	Department Faculty
	92.125-021	Calculus A	7:00-10:00 pm	M/W	3	P: 92.115, MA	Allan Gibbs
	92.126-021	Calculus B	7:00-10:00 pm	M/W	3	P: 92.125, MA	Theresa Saracusa
	92.128-021	Calculus IB	9:45-11:45 am	M-F	4	P: 92.127, MA	John Burke
	92.131-021	Calculus I	9:45-11:45 am	M-F	4	MA	Marvin Stick
	92.132-021	Calculus II	7:30-9:30 am	M-F	4	P: 92.131, MA	Alan Kaplan
	92.132-022	Calculus II	9:45-11:45 am	M-F	4	P: 92.131, MA	James Graham-Eagle
	92.183-021	Introduction to Statistics	7:30-9:30 am	M-Th	3	P: 90.111 or equivalent, Area III, MA	Alexander Olsen
	92.183-022	Introduction to Statistics	7:00-10:00 pm	M/W	3	P: 90.111 or equivalent, Area III, MA	Department Faculty
	92.201-021	Integral Calculus	9:45-11:45 am	M-Th	3	P: 92.122, Area III, MA	Alexander Olsen
	92.201-022	Integral Calculus	7:30-9:30 am	M-Th	3	P: 92.122, Area III, MA	Marvin Stick
	92.202-021	Microcomputers & Application Software (Lab Fee)	7:30-9:30 am	M-Th	3	SC	Susan L'Italien
	92.202-022	Microcomputers & Application Software (Lab Fee)	7:00-10:00 pm	M/W	3	SC	Susan L'Italien
	92.202-023	Microcomputers & Application Software (Lab Fee)	6:00-9:00 pm	T/Th	3	SC	Dennis Roffman
92.225-021	Calculus C	7:00-10:00 pm	M/W	3	P: 92.126, MA	Philip Breen	

Academic Credit Course Listing

92.226-021	Calculus D	7:00-10:00 pm	M/W	3	P: 92.225, MA	Rida Mirie
92.231-021	Calculus III	7:30-9:30 am	M-F	4	P: 92.132, MA	James Graham-Eagle
92.234-021	Differential Equations	7:00-10:00 pm	T/Th	3	P: 92.132 or 92.225, MA	Rida Mirie
92.263-021	FORTRAN Programming (Lab Fee)	7:00-10:00 pm	T/Th	3	P :90.112 or 92.121 or equivalent, SC	James Brzowski
92.265-021	Pascal Programming (Lab Fee)	9:45-11:45 am	M-Th	3	P: 90.112 or 92.121 or equiv, Area III, SC	Ann Marie Hurley
92.265-022	Pascal Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 90.112 or 92.121 or equiv, Area III, SC	James Brzowski
92.267-021**	C Programming (Lab Fee)	Noon-2:00 pm	M-Th	3	P: 92.265, SC	Ann Marie Hurley
92.267-022**	C Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.265, SC	Paul Nagle
92.267-023**	C Programming (Lab Fee)	6:00-9:00 pm	T/Th	3	P: 92.265, SC	Timothy Niesen
92.268-021	C++ Programming (Lab Fee)	7:00-10:00 pm	M/W	3	P: 92.267, SC	Brian Hodges
92.305-021	Introduction to Real Analysis I	9:45-11:45 am	M-Th	3	P: 92.301	James Graham-Eagle
92.311-021	Intro to the UNIX Operating Sys. (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 92.267 or 92.211 and 92.364	Sean McGowan
92.321-021	Discrete Structures I	7:00-10:00 pm	M/W	3	P: 90.112 or 92.121	Anthony Penta
92.386-021	Statistics for Science and Engineering	7:00-10:00 pm	M/W	3	P: 92.226 or 92.132	Department Faculty
92.485-021	Queueing Theory	6:00-9:00 pm	T/Th	3	P: 92.307 or 92.386 with permission	Mark Yin

*Fundamentals of Algebra (90.111) is a preparatory course and cannot be credited toward a degree program at the University of Massachusetts Lowell.

**Students may not receive credit for both 90.112 and 92.121. Students may not receive credit for both 92.211 and 92.267.

***Placement exam is given the first evening of class.

Many 500-level courses are well within the grasp of upper level undergraduates and may be used as electives. Refer to the Graduate School listing and contact the Graduate School for admissions procedures. University of Massachusetts Lowell Day students must have approval from the mathematics coordinator before taking courses with a 90 prefix.

Mechanical Engineering	22.212-021	Mechanics of Materials	7:30-9:30 am	M-Th	3	P: 22.211, 92.225 or 92.231	Department Faculty
	22.302-021	Mechanical Engineering Lab I: (Lab Fee)	Time: TBA	T/Th	2 (3)	P: junior status	Department Faculty
	22.403-021	Instrumentation/Measurement Mechanical Engineering Lab II: (Lab Fee)	Time: TBA	TBA	2 (3)	P: 22.302, 22.311, 22.354, 22.381	A.Mescher/Bousquet
	22.242-021	Measurement Engineering Thermodynamics	7:30-9:30 am	M-Th	3	P: 25.101, 25.102, 92.231, 95.144	Y. Zilberberg
Mechanical Engineering Technology and Manufacturing Option	23.102-021	Engineering Graphics II	7:00-10:00 pm	T/Th	2 (3)	P: 23.101	Bradley Mingles
	23.223-021	Mechanics of Materials	7:00-10:00 pm	M/W	3	P: 23.221, 92.126	Marilynn Keppler
	23.243-021	Elements of Thermodynamics II	7:00-10:00 pm	T/Th	3	P: 23.241	Vernon Oliver
	23.419-011	CAM (Lab Fee)	7:00-10:00 pm	T/Th	3	P: 23.305 or 23.306	David Ierardi
	23.426-021	Quality Systems Certification/ISO 9000	7:00-10:00 pm	T/Th	3	P: 23.314	Charles Priest
	23.480-021	CADes (Lab Fee)	7:00-10:00 pm	M/W	3	P: 23.200, 23.354	Robert Maffia
CERTIFICATE IN MANUFACTURING TECHNOLOGY (See page 20.)							
Multimedia Applications	(See Computer Mathematics)						
Music	71.100-021	Fundamentals of Musicianship	7:30-9:30 am	M-Th	3	Music Majors only	Eleanor Trawick
	71.110-021	Basic Music Theory	7:00-10:00 pm	M/W	3	Non-Music majors, Area II, AE	Juanita Tsu
	71.202-021	Music Theory IV	9:45-11:45 am	M-Th	3	P: 71.201, Music majors only	Mark Peterson
	71.203-021	Solfège III	7:30-9:30 am	M-Th	3	P: 71.104	Lisa Cleveland
Paralegal (also see Legal Studies & Criminal Justice)	41.287-021	Legal Writing	7:00-10:00 pm	M/W	3		Department Faculty
	41.363-021	Corporate and Property Law	7:00-10:00 pm	T/Th	3		Eugene Reardon
	41.370-021	Real Estate Law	7:00-10:00 pm	T/Th	3		Russell Karl
	41.387-021	Legal Research Methods	7:00-10:00 pm	T/Th	3		Jane McElligott
	41.392-021	Will Trusts and Estates	7:00-10:00 pm	M/W	3		Debra Thompson
Please see admission requirements to the Paralegal Certificate on page 20. Courses are open only to students currently enrolled in the Paralegal Certificate. Courses are available to other students on a space available basis.							
Philosophy	45.201-021	Introduction to Philosophy	9:45-11:45 am	M-Th	3	Area II and VC, HV	Elizabeth Gleason
	45.201-022	Introduction to Philosophy	7:00-10:00 pm	M/W	3	Area II and VC, HV	Donald LeBlanc
	45.202-021	Introduction to Logic	7:00-10:00 pm	T/Th	3	Area II and VC	Peter Skagestad
	45.203-021	Introduction to Ethics	7:00-10:00 pm	T/Th	3	Area II and VC, HV	Michael Koran
Physics	95.104-021	General Physics II	7:30-9:30 am	M-Th	3	P: 95.103; C: 96.104, SC	Roger McLeod
	95.121-021	Exploring the Universe	7:30-9:30 am	M-Th	3	SC, Area III	Paul Ring
	95.141-021	Physics I	9:45-11:45 am	M-F	3 (4)	P: 92.131, C: 96.141, SC	Kunnat Sabastian
	95.144-021	Physics II	9:45-11:45 am	M-F	3 (4)	P: 95.141, 92.132, C: 96.144, SC	Paul Ring
	96.104-021	Experimental General Physics II (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	C: 95.104, SC	Department Faculty
	96.141-021	Experimental Physics I (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	C: 95.141, SC	Department Faculty
	96.144-021	Experimental Physics II (Lab Fee)	2:15-5:15 pm	TBA	1 (1.5)	P: 96.141; C: 95.144, SC	Department Faculty
		(2 afternoons per week)					
	99.101-021	Radiation and Life	9:45-11:45 am	M-Th	3	C: 99.102, Area III	Duane Quayle
	99.102-021	Radiation and Life Lab (Lab Fee)	2:15-5:15 pm	TBA	1 (2)	C: 99.101, Area III	Duane Quayle
(requires 2 additional evenings for a total of 16 meetings)							
Plastics	27.453-021	Selected Topics III:	7:00-10:00 pm	M/W	3	P: Instructor permission	Stephen Driscoll
	27.454-021	Selected Topics IV	7:00-10:00 pm	T/Th	3	P: Instructor permission	Stephen Driscoll
Courses with the 27 prefix are not eligible for graduate credit.							
CERTIFICATE IN PLASTICS ENGINEERING TECHNOLOGY (See page 20.)							
Political Science	46.101-021	Introduction to American Politics	9:45-11:45 am	M-Th	3	Area I, BS	Dean Bergeron
	46.357-021	American Environmental Politics	Noon-2:00 pm	M-Th	3	VC, BS	Dean Bergeron
	46.121-021	Intro to International Relations	7:00-10:00 pm	M/W	3	Area I, BS	Paula McCabe
Psychology	47.101-021	General Psychology	7:30-9:30 am	M-Th	3	Area I, BS	Maria Michailides
	47.101-022	General Psychology	7:00-10:00 pm	M/W	3	Area I, BS	Darryl Graves
	47.209-021	Social Psychology	7:30-9:30 am	M-Th	3	Area I, Human Values, BS	Kevin Callahan
	47.232-021	Psychology of Personality	9:45-11:45 am	M-Th	3	P: 47.101, Area I, BS	Joseph Waterman
	47.260-021	Human Development I	Noon-2:00 pm	M-Th	3	Area I, BS	Masahiko Minami
	47.272-021	Abnormal Psychology	6:00-9:00 pm	T/Th	3	P: 47.101, Area I, BS	John Bayliss
	47.276-021	Theories of Learning	Noon-2:00 pm	M-Th	3		Mary Duell
	47.328-021	Dynamics of Interpersonal Relations	2:15-5:15 pm	M/W	3	Area I	R. Kushner
	47.335-021	Psychology of Women	6:00-9:00 pm	M/W	3	Area I, Human Values, VC	Charlene Drake
	47.360-021	Human Development II	7:30-9:30 am	M-Th	3	P: 47.260	Victoria Bacon
Radiological Sciences	(See Physics)						
Sociology	48.101-021	Introduction to Sociology	7:30-9:30 am	M-Th	3	Area I, BS	Levon Chorbajian
	48.101-022	Introduction to Sociology	7:00-10:00 pm	T/Th	3	Area I, BS	Levon Chorbajian
	48.220-021	Self Assessment & Career Development	7:00-10:00 pm	M/W	3		Department Faculty
	48.317-021	Sociology of Genocide	7:00-10:00 pm	M/W	3	VC	Jack Porter
Water/Wastewater Technology Option	(See Civil Engineering Technology: Water/Wastewater Option)						



Summer Session I

GRADUATE COURSES

Except as noted: Day classes begin on May 20.
M/W Evening Classes begin on May 20.
T/Th Evening Classes begin on May 21.

	No.	Title	Time	Days	Cr(Co)	P: Prerequisite/ Corequisite/Other	Instructor
Business Administration	(See above for restrictions on courses marked with a '+')						
	+61.760-011	International Financial Management	6:00-9:00 pm	M/W	3	P: completion of Foundations core	Yash Puri
	+62.710-011	Marketing Research	6:00-9:00 pm	M/W	3	P: completion of Foundations core	Department Faculty
	61.501-011	Business Financial Analysis	Time: TBA	Th	3		Department Faculty
	62.781-011	New Products	6:00-9:00 pm	M/W	3		Department Faculty
	63.791-011	Manufacturing Simulation	6:00-9:00 pm	T/Th	3		James Monahan
	66.501-011	Organizational Behavior	6:00-9:00 pm	M/W	3		Department Faculty
	63.790-011	Spec. Topics, Operations Mgt.		M/W	3		Joyce Mehring
Civil Engineering	18.503-011	GIS for Environmental Studies (lab fee)	7:00-10:00 pm	T/Th	3		P. Osterroth
Computer Science	91.500-021	Fundamental Models	6:00-9:00 pm	T/Th	3	(13 weekly meetings)	Peter Weston
	91.502-021	Foundatns of Computer Science (Lab Fee)	6:00-9:00 pm	T	3	(15 weekly meetings)	Charles Steele
	91.510-021	Topics in Algorithms (Lab Fee)	6:00-9:00 pm	TBA	3	(15 weekly meetings)	Charles Steele
	91.523-021	Software Engineering I (lab fee)	6:00-9:00pm	M	3	(15 weekly meetings)	Robert Lechner
	91.583-021	Trans. Analysis of Algorithms (Lab Fee)	6:00-9:00 pm	M	3	(15 weekly meetings)	Richard Epstein
	91.585-021	Trans. Computer Architecture (Lab Fee)	6:00-9:00 pm	W	3	(13 weekly meetings)	D. Hendrickson
	91.588-021	Trans. Operating Systems (Lab Fee)	6:00-9:00 pm	W	3	(13 weekly meetings)	Department Faculty
Criminal Justice	44.493-011	Computer Crime	7:30-9:30 am	M-Th	3		Joseph Lipchitz
	44.496-011	Practicum	9:45-11:45 am	M-Th	3		Renee Kasinsky
	44.521-011	Criminological Therry*	5:00-8:00 pm	M/W	3		R. Corbett
	44.560-011	Gender, Race and Crime (Boston)*	6:00-9:00 pm	T/Th	3		Renee Kasinsky
	44.590-011	Research Methods in CJ*	5:00-8:00pm	T/Th	3		D. Cavanaugh
	*(Held in Boston at the McCormick Building)						
Electrical Engineering	(Note: All Electrical Engineering courses begin the week of May 20 and end the week of July 22, 1996, unless otherwise noted.)						
	16.528-011	Alternate Energy Sources (6 weeks)	6:00-9:00 pm	M/W	3	P: Instructor permission	Ziyad Salameh
	16.574-021	Advanced Logic Design	6:00-8:00 pm	M/W	3	P: 16.217, 16.265	Anh Tran
	16.700-021	Seminar	6:00-8:00 pm	T/Th	3	P: Minimum 15 graduate credits	David Wade
	16.721-021	Special Topics: Fuzzy Systems Theory and Applications	6:00-8:00 pm	M/W	3		Syama Chaudhuri
	16.724-021	Special Topics: Neural Networks	6:00-8:00 pm	T/Th	3		Khanh Luong
Health Professions	34.615-011	Clinical Education I	8:00am-5:00pm	M-S	2(4)	P: 1st yr Phys.Therpy Grad studnts only	C Seymour/G. Dybel
	32.629-011	Long-Term Care Administration	6:00-9:00 pm	T/Th	3		Chester Jakubiak
	32.625-011	Health Policy	6:00-9:00 pm	M/W	3		Department Faculty
	34.640-011	Advanced MS Evaluation & Treatment: the spine	6:00-9:00 pm	M/W	3	P: Physical Therapists	C. Seymour
Mathematics	92.500-011	Discrete Structures	3:00-6:00 pm	T/Th	3		Alan Doerr
	92.516-011	Pattern Recognition & Neural Networks	5:30-8:00 pm	T/Th	3	P: 92.386/Linear Algebra or equivalent	Lee Jones
	92.520-011	Mathematical Problem Solving	6:00-9:00 pm	T/Th	3	P: 92.226 or 92.231 or equivalent	Kenneth Levasseur
	92.521-011	Algebraic Structures I	Noon-2:00 pm	M-Th	3	P: 92.221 or 92.321	Alan Doerr
	92.550-011	Mathematical Modeling	5:30-8:00 pm	T/Th	3	P: 92.231 or equivalent	James Graham-Eagle
	92.580-011	Combinatorics	5:30-8:00 pm	M/W	3	P: Calculus & Discrete Struct.or equiv.	Mark Yin
Plastics	26.500-011	Advanced Projects Plastics (Non lab)	TBA	TBA	3	P: instructor permission	Rudolph Deanin
	26.500-012	Advanced Projects (Lab)	TBA	TBA	3	P: instructor permission	Rudolph Deanin
	26.538-011	Selected Topics	TBA	TBA	3	P: instructor permission	Rudolph Deanin
Psychology	47.531-011	Substance Abuse	6:00-9:00 pm	T/Th	3		Richard Siegel
	47.534-011	Diversity in the Family	6:00-9:00 pm	M/W	3		Peter Hantzis
	47.551-011	Psychosocial Aspects of Aging	6:00-9:00 pm	T/Th			Kevin Callahan
Radiological Science	98.681-011	Medical Physics	Time: TBA	TBA	3		Department Faculty
	98.687-011	Medical Physics Internship	Time: TBA	TBA	3		Department Faculty
	98.697-011	Adv.Graduate Medical Physics Internship	Time: TBA	TBA	3		Department Faculty



Summer Session II

GRADUATE COURSES

Except as noted: Day classes begin on July 8.
M/W Evening Classes begin on July 8.
T/Th Evening Classes begin on July 9.

	No.	Title	Time	Days	Cr(Co)	Prerequisite/Corequisite/Other	Instructor
Business Administration	63.790-021	Special Topics in MIS	6:00-9:00 pm	M/W	3		Reza Bharki
Health Professions	34.634-021	Clinical Education Experience II	8:00am-4:00pm	TBA	2(4)	P: Clinical Education Experience I	S.O'Sullivan/L.D'Angelo
Mathematics	92.585-021	Queueing Theory	6:00-9:00 pm	T/Th	3	Combined with 94.485-021	Mark Yin
Plastics	26.500-021	Advanced Projects (Non lab)	Time: TBA	TBA	3	P: instructor permission	Rudolph Deanin
	26.500-022	Advanced Projects (Lab)	Time: TBA	TBA	3	P: instructor permission	Rudolph Deanin
	26.539-021	Selected Topics: Plastics	Time: TBA	TBA	3		Rudolph Deanin
Psychology	47.503-021	Applied Social Psychology	6:00-9:00 pm	T/Th	3		W. Berkowitz
	47.511-021	The Family System	6:00-9:00 pm	M/W	3		S. Hamby
Radiological Sciences	98.687-021	Graduate Medical Physics Internship	Time: TBA	TBA	3		Department Faculty
	98.697-021	Adv. Graduate Medical Physics Internship	Time: TBA	TBA	3		Department Faculty

Registration Form for Credit and Noncredit Courses

University of Massachusetts Lowell

University College/Continuing Education

One University Avenue

Lowell, MA 01854

PLEASE USE INK AND PRINT

✓ CHECK APPROPRIATE REGISTRATION STATUS:

☐ Summer I (May-June)

☐ Summer II (July-Aug)

☐ Graduate

☐ Noncredit/Professional Institutes

Social Security No.

Name

(Last)

(First)

(Middle)

Street & No.

City & State

Zip Code

COURSES FOR WHICH YOU ARE REGISTERING

COURSE NUMBER	COURSE TITLE	CREDITS
	SUMMER I	
	SUMMER II	

Complete if paying by Credit Card:

☐ MASTERCARD

☐ VISA

Acct.No.

Expiration Date

/

Customer Signature

* Note: If you are registering for both credit and noncredit courses, please photocopy the registration form and register for them separately. Payment for credit and noncredit courses should also be made separately from each other.

Date

Sex: M F

Date of Birth

Work phone () -

Home phone () -

Company Name

Street Address

City & State

Handicap? yes no JTPA?

Change of name or address since last registration? yes no

Former name

Will you be using veteran benefits? yes no

State/Active Duty G.I. Bill

Tuition and Fees*

Registration Fee	
Credit	Noncredit
\$35.00	\$15.00
Tuition	
Lab	
Late fee	
Other	
Total	\$



Credit Courses On-Site
At Your Company

Help your employees learn the skills and knowledge they need to keep up in today's rapidly changing workplace.

We can offer over 300 individual courses in areas such as Computers, Electrical/Civil/Mechanical Engineering Technology, Management, and Manufacturing on-site, at your facility. Programs can be custom designed to meet your company's specific training needs.

On-site Certificate Programs are also available in Accounting, Banking, Computer Proficiency, Data/Telecommunications, Electro-Optics, Engineering Skills, Environmental Technology, Surveying, Manufacturing Technology, Multimedia Applications, Nutrition, Paralegal Studies, Plastics Engineering Technology, Purchasing Management, Quality Management, Spanish, Technical Writing, UNIX, Industrial Security, Wastewater Treatment, and Water Wastewater.

For further information about on-site training programs, please contact the Division of Continuing Education at (508) 934-2405.

SUMMER GRADUATE

MUSIC EDUCATION PROGRAMS

Orff-Schulwerk Teacher Training Workshops (Levels I-III)

July 8-19

Teaching Piano The Suzuki Way & Advanced Suzuki Methods

July 22-26

Silver Burdett-Ginn Publishing Workshop

July 22-26

Introduction To Music Of Diverse Cultures

July 25-August 2

Dalcroze Eurhythmics

July 25-August 2

Using Computers In Music Education

July 29-August 9

Show Choir/Musical Theatre Techniques

July 29-August 7

Contemporary Choral Techniques

August 12-23

Basic ABCD For Beginning Brass

July 29-August 1

For a 1996 Summer Music Education brochure, please call the Office of Special Programs at (508) 934-2405.

EUROPEAN SUMMER PHOTOGRAPHY WORKSHOP!

August 12-31, 1996

Instructor: Professor Arno Minkkinen

Course #70.461-021 (3 credits)

Join us for an intensive 3-week workshop in portrait, documentary, and travel photography for a group of 10 American, 10 Finnish, and 10 Swiss students in collaboration with the Lahti Institute of Design in Lahti, Finland and the École d'Arts Appliques in Vevey, Switzerland.

The course begins with an exploration of the landscape and culture of Finland. Travel by motor coach through St. Petersburg, Riga, Krakow, and Prague to Switzerland. Additional photographic work in Vevey on Lake Geneva in the Swiss Alps. Both Finnish and Swiss schools are equipped with state-of-the-art photographic labs and studios. The final critique of the workshop becomes a tri-national traveling exhibition in the three schools during 1996-97. Limited to 10 American students. Finnish and Swiss enrollments full. Prerequisite: Photography I Studio (70.261). Travel costs including airfare, motor coach, lodging, and 2 meals per day come to approximately \$2,500 (does not include tuition and supplies).

Interested students should contact the Art Department of the College of Fine Arts or Professor Arno Minkkinen at (508) 934-3496. To register by phone, call the Office of Enrollment Services at (508) 934-2700. Tuition: \$345 plus the \$30 registration fee.

1996 Summer Writing Courses

42.302-011 Creative Writing - Fiction (Summer I)

Mon & Wed, 7:00-10:00 pm

Instructor: Richard Farrell, award-winning fiction writer and filmmaker.

42.303-011 Creative Writing - Poetry (Summer I)

Tues & Thurs, 7:00-10:00 pm

Instructor: Hilary Holladay, UML faculty and widely published poet.

42.220-021 Personal and Reflective Memoir Writing (Summer II)

Mon & Wed, 7:00-10:00 pm

Instructor: Judith Dickerman-Nelson, founder of The Lowell Review.

42.232-021 Writers of the Merrimack Valley (Summer II)

Tues & Thurs, 7:00-10:00 pm

Instructor: Terry Farrish, novelist and author of critically acclaimed "If The Tiger"

Summer Reading Series

Free and Open to the Public

Location: O'Leary Library 222 (South Campus)

Faculty Readings

Thursday, June 20, 7-9 pm

Student Readings

Thursday, June 27, 7-9 pm

Guest Reader: Hal Clement, Science fiction author

Thursday, July 18, 7-9 pm

Small Press Editors Panel & Book Fair

Thursday, August 1, 7-9 pm

ENGINEER TRAINEE (EIT)
REVIEW PROGRAM

Wednesday Nights, 6:00-9:00 pm
August 7 – October 16, 1996

Principles & Practices of Engineering (PE) Review Programs

In Civil (Structural and Environmental), Electrical, and Mechanical Disciplines.

Tuesday Nights, 6:00-9:00 pm
August 6 – October 15, 1996

Call the Office of Special Programs at (508) 934-2405 for more information.

14

Registration Form for Credit and Noncredit Courses

University of Massachusetts Lowell

University College/Continuing Education

One University Avenue

Lowell, MA 01854

PLEASE USE INK AND PRINT

✓ CHECK APPROPRIATE REGISTRATION STATUS:

☐ Summer I (May-June)

☐ Summer II (July-Aug)

☐ Graduate

☐ Noncredit/Professional Institutes

Social Security No.

Name

(Last)

(First)

(Middle)

Street & No.

City & State

Zip Code

Date

Sex: M F

Date of Birth

Work phone () -

Home phone () -

Company Name

Street Address

City & State

Handicap? yes no JTPA?

Change of name or address since last registration? yes no

Former name

Will you be using veteran benefits? yes no

State/Active Duty G.I. Bill

COURSES FOR WHICH YOU ARE REGISTERING

COURSE NUMBER	COURSE TITLE	CREDITS
	SUMMER I	
	SUMMER II	

Tuition and Fees*

Registration Fee

Credit	Noncredit
\$35.00	\$15.00

Tuition

Lab

Late fee

Other

Total \$.

Complete if paying by Credit Card:

☐ MASTERCARD

☐ VISA

Acct.No.

Expiration Date /

Customer Signature

* Note: If you are registering for both credit and noncredit courses, please photocopy the registration form and register for them separately. Payment for credit and noncredit courses should also be made separately from each other.



Credit Courses On-Site
At Your Company

Help your employees learn the skills and knowledge they need to keep up in today's rapidly changing workplace.

We can offer over 300 individual courses in areas such as Computers, Electrical/Civil/Mechanical Engineering Technology, Management, and Manufacturing on-site, at your facility. Programs can be custom designed to meet your company's specific training needs.

On-site Certificate Programs are also available in Accounting, Banking, Computer Proficiency, Data/Telecommunications, Electro-Optics, Engineering Skills, Environmental Technology, Surveying, Manufacturing Technology, Multimedia Applications, Nutrition, Paralegal Studies, Plastics Engineering Technology, Purchasing Management, Quality Management, Spanish, Technical Writing, UNIX, Industrial Security, Wastewater Treatment, and Water Wastewater.

For further information about on-site training programs, please contact the Division of Continuing Education at (508) 934-2405.

SUMMER GRADUATE

MUSIC EDUCATION PROGRAMS

Orff-Schulwerk Teacher Training Workshops (Levels I-III)

July 8-19

Teaching Piano The Suzuki Way & Advanced Suzuki Methods

July 22-26

Silver Burdett-Ginn Publishing Workshop

July 22-26

Introduction To Music Of Diverse Cultures

July 25-August 2

Dalcroze Eurhythmics

July 25-August 2

Using Computers In Music Education

July 29-August 9

Show Choir/Musical Theatre Techniques

July 29-August 7

Contemporary Choral Techniques

August 12-23

Basic ABCD For Beginning Brass

July 29-August 1

For a 1996 Summer Music Education brochure, please call the Office of Special Programs at (508) 934-2405.

EUROPEAN SUMMER PHOTOGRAPHY WORKSHOP!

August 12-31, 1996

Instructor: Professor Arno Minkkinen

Course #70.461-021 (3 credits)

Join us for an intensive 3-week workshop in portrait, documentary, and travel photography for a group of 10 American, 10 Finnish, and 10 Swiss students in collaboration with the Lahti Institute of Design in Lahti, Finland and the École d'Arts Appliques in Vevey, Switzerland.

The course begins with an exploration of the landscape and culture of Finland. Travel by motor coach through St. Petersburg, Riga, Krakow, and Prague to Switzerland. Additional photographic work in Vevey on Lake Geneva in the Swiss Alps. Both Finnish and Swiss schools are equipped with state-of-the-art photographic labs and studios. The final critique of the workshop becomes a tri-national traveling exhibition in the three schools during 1996-97. Limited to 10 American students. Finnish and Swiss enrollments full. Prerequisite: Photography I Studio (70.261). Travel costs including airfare, motor coach, lodging, and 2 meals per day come to approximately \$2,500 (does not include tuition and supplies).

Interested students should contact the Art Department of the College of Fine Arts or Professor Arno Minkkinen at (508) 934-3496. To register by phone, call the Office of Enrollment Services at (508) 934-2700. Tuition: \$345 plus the \$30 registration fee.

1996 Summer Writing Courses

42.302-011 Creative Writing - Fiction (Summer I)

Mon & Wed, 7:00-10:00 pm

Instructor: Richard Farrell, award-winning fiction writer and filmmaker.

42.303-011 Creative Writing - Poetry (Summer I)

Tues & Thurs, 7:00-10:00 pm

Instructor: Hilary Holladay, UML faculty and widely published poet.

42.220-021 Personal and Reflective Memoir Writing (Summer II)

Mon & Wed, 7:00-10:00 pm

Instructor: Judith Dickerman-Nelson, founder of The Lowell Review.

42.232-021 Writers of the Merrimack Valley (Summer II)

Tues & Thurs, 7:00-10:00 pm

Instructor: Terry Farrish, novelist and author of critically acclaimed "If The Tiger"

Summer Reading Series

Free and Open to the Public

Location: O'Leary Library 222 (South Campus)

Faculty Readings

Thursday, June 20, 7-9 pm

Student Readings

Thursday, June 27, 7-9 pm

Guest Reader: Hal Clement, Science fiction author

Thursday, July 18, 7-9 pm

Small Press Editors Panel & Book Fair

Thursday, August 1, 7-9 pm

ENGINEER TRAINEE (EIT) REVIEW PROGRAM

Wednesday Nights, 6:00-9:00 pm

August 7 - October 16, 1996

Principles & Practices of Engineering (PE) Review Programs

In Civil (Structural and Environmental), Electrical, and Mechanical Disciplines.

Tuesday Nights, 6:00-9:00 pm

August 6 - October 15, 1996

Call the Office of Special Programs at (508) 934-2405 for more information.

14

COMMUNITY EDUCATION (Noncredit) Course Listing

COMMUNITY EDUCATION

Noncredit Course Listing

If you have any questions regarding the Community Education Noncredit Courses, please call the Office of Enrollment Services/Continuing Education at (508) 934-4996 or fax at (508) 934-3087.

See registration dates and procedures on pages 2-4.

Tuition and Fees

The tuition is indicated after each course description. There is a registration fee of \$15.00 which is listed on the registration form. In addition to the tuition and fees listed, certain courses require the purchase of materials and equipment. Every effort is made to keep these additional expenses to a minimum.

Senior Citizen Waivers

Participants who are 60 and older may register for a Community Education course on a "space available" basis without payment of tuition charges. A fee payment of \$15.00 per course will be charged and there may be a charge for class materials or texts.

PLEASE NOTE: Courses marked with an asterisk(*) are not available at the reduced tuition rates for senior citizens, state employees, etc.

ART, HOME, DESIGN & CRAFTS

Basic Drawing Techniques: From Still Life to Human Figure

[00.101-011]
Summer I

Instructor: David Lowrey

A variety of drawing assignments from still life to figures using different drawing media. The class will cover the principles of drawing as well as life drawing using the "right side of the brain."

Tues: 7:00-9:30 pm-6 wks-Begins 5/21/96-Tuition: \$55.00

Portrait Drawing/Painting

[00.103-011]
Summer I

Instructor: David Lowrey

This course covers the techniques of drawing and painting the human face. Students may work in pastels or oils and advance at their own pace.

Mon: 7:00-9:30 pm-6 wks-Begins 5/20/96-Tuition: \$85.00

Caricature Carving

[00.119-011]
Summer I

Instructor: Rupert Stangroom

Carve sea captains, cowboys, fishermen and other in-the-round characters. Learn to carve faces and hands and how to paint your figures. Cut-outs will be available. Tool sharpening will also be covered. Some basic knowledge of woodcarving desirable.

Wed: 7:00-9:30 pm-6 wks-Begins 5/22/96-Tuition: \$85.00

NEW! Writing & Drawing Children's Books for Writers

[00.216-011]
Summer I

Instructor: Robin Hansen

This course is designed to teach all elements of children's book creation from idea to finish. We will make a book dummy and learn the process of submitting work to publishers. Key focus is on the writing. Beginners welcome. The course is taught by an award winning illustrator and author of children's books.

Tues: 6:00-9:00 pm-6 wks-Begins 5/21/96-Tuition: \$60.00

NEW! Writing & Drawing Children's Books for Artists

[00.217-011]
Summer I

Instructor: Robin Hansen

A course designed to teach all aspects of children's book creation, with a focus on the design and illustration of books. Taught by an award winning illustrator and author of children's books.

Thurs: 6:00-9:00 pm-6 wks-Begins 5/23/96-Tuition: \$60.00

African Textiles

[00.111-011]
Summer I

Instructor: Molly Martin

Savor the richness and diversity of sub-Saharan Africa through a study of the production, function and cultural significance of these works of art.

Thurs: 7:30-9:30 pm-3 wks-Begins 6/13/96-Tuition: \$45.00

Using Your Herb Garden: Fragrant & Savory Harvest

[00.151-011]
Summer I

Instructor: Betsy Williams

Vinegars, potpourri, cooking, butters, jellies, sauces, pestos, wines, as well as freezing & drying herbs for winter. Tasting and hands-on included! Simple cosmetics. Preserving leaves with glycerine. Harvesting for dried flower arrangements: Plus a \$5 materials fee.

Thurs: 7:00-8:30 pm-2 days-6/6/96 & 6/13/96-Tuition: \$35.00

Interior Design

[see #'s below]
Summer I

Instructor: Nancy Lesofsky

Learn how fabric, light, wall and floor treatments, together with furnishing and accessories can be combined to create unique environments reflecting individual tastes and life-styles.

Section A: Thurs, 5:00-7:00 pm-4 wks-Begins 5/23/96-Course #: [00.133-011]-Tuition: \$40.00

Section B: Thurs, 7:00-9:00 pm-4 wks-Begins 5/23/96-Course #: [00.133-012]-Tuition: \$40.00

Quilting for Beginners

[00.129-011]
Summer I

Instructor: Frances Ward

Learn the basics of quilt making including 9 patch, 8 pointed star, hand appliqué, log cabin and quilt assembly techniques. Stitching in class is by hand. Quilt assembly is by machine. No prior experience necessary.

Wed: 7:00-9:00 pm-6 wks-Begins 5/22/96-Tuition: \$70.00

*How to Open and Run a Bed & Breakfast Inn

[00.145-011]
Summer I

Instructor: Greg Brown

Helps prospective innkeepers understand whether or not this is the lifestyle and business climate that they are looking for. Addresses four major areas: locating a bed & breakfast, financing your inn, licenses and zoning, marketing and advertising, and the nuts and bolts of innkeeping.

Sat: 9:00 am-5:00 pm-1 day-6/8/96-Tuition: \$75.00

MUSIC, LITERATURE & HISTORY

Screenwriting for Film & Television

[00.204-011]
Summer I

Instructor: William Holland

Learn the basic elements of dramatic writing (plotting and character development) using the three-act structure. Other topics include: how to find an agent, where to submit material, and how to present your script. Each student's goal will be to develop a full-length screenplay in outline form and to submit a "polished" first act (25-30 pages).

Sat: 9:30 am-4:30 pm-6 wks-Begins 5/25/96-Tuition: \$120.00

Creative Writing for Serious Beginners

[00.220-011]
Summer I

Instructor: Raymond J. Harding

This course will cover the basics of technique and style, and will include an in-depth examination of plot development, setting, character and theme. The course will also deal with the practical aspects of getting one's work into print including how to select and impress an agent, how to prepare a manuscript, and how to read the market.

Wed: 6:30-8:30 pm-6 wks-Begins 5/22/96-Tuition: \$90.00

NEW! The Vocal Workshop

[00.260-011]
Summer I

Instructor: Deborah Gruber, B.M., M.M.

This introductory workshop will expose students to the fundamentals of singing. Through fun exercises and favorite show tunes and popular songs, we will explore such concepts as relaxation, posture, breathing, coordination, resonance, flexibility, stylistic expression, and articulation. The format is both recreational and educational. Each student will receive a professional evaluation of his/her voice, a booklet of exercises, and a practice cassette for home study.

Mon: 6:30-9:30 pm-1 eve.-6/3/96-Tuition: \$60.00

Introduction to Guitar

[00.238-011]
Summer I

Instructor: David Surette

Designed to introduce the novice guitarist to the various aspects of playing. Note reading, chords, technique and exposure to the different styles of guitar playing are among the topics that will be covered. Students must bring their own guitar and note book.

Wed: 5:30-7:30 pm-6 wks-Begins 5/22/96-Tuition: \$80.00

Guitar Repertoire

[00.240-011]
Summer I

Instructor: David Surette

A class aimed at students who have completed "Intermediate Guitar" and want to expand their repertoire, as well as new students already playing at an intermediate level. The class will focus on acoustic folk and folk/rock songs from the 60's through the 90's, and will include a special unit on blues guitar.

Wed: 8:00-9:30 pm-6 wks-Begins 5/22/96-Tuition: \$80.00

ESL, LANGUAGE & CULTURE

Conversational Spanish I

[see #'s below]
Summer I & II

Instructor: Fausta Asimakopoulou

Designed for the person who wants to become familiar with Spanish, this course emphasizes useful, everyday conversation that is essential when traveling or working. Section A: Tues: 5:30-7:30 pm-6 wks-Begins 5/21/96-Course #: [00.321-011]-Tuition: \$45.00

Section B: Tues: 5:30-7:30 pm-6 wks-Begins 7/9/96-Course #: [00.321-021]-Tuition: \$45.00

Conversational Spanish II

[see #'s below]
Summer I & II

Instructor: Fausta Asimakopoulou

A continuation of Conversational Spanish I, with additional emphasis on conversational skills. Section A: Wed: 5:30-7:30 pm-6 wks-Begins 5/22/96-Course #: [00.322-011]-Tuition: \$45.00

Section B: Wed: 5:30-7:30 pm-6 wks-Begins 7/10/96-Course #: [00.322-021]-Tuition: \$45.00

Conversational Spanish III

[see #'s below]
Summer I & II

Instructor: Fausta Asimakopoulou

A continuation of Conversational Spanish II, with additional emphasis on conversational skills and awareness of Spanish culture. Emphasis is on the acquisition and use of practical oral vocabulary used in everyday situations. Section A: Thurs: 5:30-7:30 pm-6 wks-Begins 5/23/96-Course #: [00.365-011]-Tuition: \$45.00

Section B: Thurs: 5:30-7:30 pm-6 wks-Begins 7/11/96-Course #: [00.365-021]-Tuition: \$45.00

Beginning Conversational French

[see #'s below]
Summer I & II

Instructors: Dr. R. Lacerte & E. Tabea

Designed for the beginner with little or no knowledge of the French language. This course takes a conversational approach emphasizing vocabulary, correct pronunciation, proper word order. Section A: Tues: (Lacerte) 7:00-9:00 pm-6 wks-Begins 5/21/96-Course #: [00.331-011]-Tuition: \$70.00

Section B: Thurs: (Tabea) 7:00-9:00 pm-6 wks-Begins 7/11/96-Course #: [00.331-021]-Tuition: \$70.00

Intermediate Conversational French

[see #'s below]
Summer I & II

Instructors: Dr. R. Lacerte & E. Tabea

A continuation of Beginning French, providing additional exposure to the French language. Section A: Mon: (Tabea) 7:00-9:00 pm-6 wks-Begins 5/20/96-Course #: [00.332-011]-Tuition: \$70.00

Section B: Wed: (Lacerte) 7:00-9:00 pm-6 wks-Begins 7/10/96-Course #: [00.332-021]-Tuition: \$70.00

Advanced Conversational French

[see #'s below]
Summer I & II

Instructors: Dr. R. Lacerte & E. Tabea

Designed to give students who have mastered the essentials of oral French (pronunciation, intonation, and word order) further practice and to develop reading and simple writing skills.

Section A: Sat: (Tabea) 1:00-3:00 pm-6 wks-Begins 5/25/96-Course #: [00.333-011]-Tuition: \$70.00

Section B: Thurs: (Lacerte) 7:00-9:00 pm-6 wks-Begins 7/11/96-Course #: [00.333-021]-Tuition: \$70.00

NEW! French Culture: Advanced

[00.366-011]
Summer I

Instructor: Emile Tabea

This course offers students at the advanced level further practice of the language while developing a basic understanding of the French culture. Four cultural categories will be discussed: 1) the cultural context of communication, 2) value system, 3) social patterns and conventions, and 4) social institutions. Note: This course will be taught in French. Sat: 1:00-3:00 pm-6 wks-Begins 7/11/96-Tuition: \$70.00

NEW! La Musique Franco-Americaine

[00.372-011]
Summer I

Instructor: Dr. Roger Lacerte

Focus on the songs, musical traditions and creativity of one of New England's oldest and largest linguistic groups, descendants of the Canadian French. The *joie de vivre* of Lowell's Franco-Americans will especially be highlighted. Note: Most of the course will be conducted in French. Mon: 7:00-9:00 pm-6 wks-Begins 5/20/96-Tuition: \$40.00

Beginning Chinese I (Mandarin)

[see #'s below]
Summer I & II

Instructor: Mei-Ling Diep

Basic grammar and pronunciation will be introduced in this course. Learn to recognize and write simple Chinese characters. Topics include introduction and descriptions of persons, using numbers in Chinese, making simple telephone calls, ordering dishes in a restaurant, and asking directions. Learn the language by practicing to speak and write. Section A: Mon & Wed: 7:00-9:30 pm-6 wks-Begins 5/20/96-Course #: [00.359-011]-Tuition: \$75.00

Section B: Mon & Wed: 7:00-9:30 pm-6 wks-Begins 7/8/96-Course #: [00.359-021]-Tuition: \$75.00

NEW! Conversational English as a Second Language

[00.369-011]
Summer I

Instructor: Starr Pipilas

Each week students will learn vocabulary, idiomatic expressions and grammatical structures to successfully interact in real-life situations. Weekly themes will include a visit to a hospital emergency room, dining in a restaurant, making airplane reservations, interviewing for a job, etc. You will meet new friends, build your confidence in English, and have fun as you role-play typical day-to-day situations. Wed: 6:30-8:30 pm-6 wks-Begins 5/22/96-Tuition: \$85.00

NEW! English Conversation Practice

[00.370-011]
Summer I

Instructor: Sr. Suzanne Marie, s.c.o.

Put your English as a Second Language coursework into practice. One of the most practical and helpful ways is the application of learned English through conversation from start to finish of each class. NOTE: You must have someone to converse with at home in order to complete out-of-class assignments. Tues: 5:30-7:30 pm-6 wks-Begins 5/21/96-Tuition: \$65.00

Conversational English as a Second Language for Advanced Beginners

[see #'s below]
Summer I & II

Instructor: Gailanne Desmond

Intended to help the beginning student who is somewhat familiar with the English language. Extensive drilling in the basics of grammar, usage and vocabulary. Section A: Tues: 5:30-7:30 pm-6 wks-Begins 5/21/96-Course #: [00.351-011]-Tuition: \$55.00

Section B: Tues: 5:30-7:30 pm-6 wks-Begins 7/9/96-Course #: [00.351-021]-Tuition: \$55.00

English as a Second Language for Intermediates

[see #'s below]
Summer I & II

Instructor: Gailanne Desmond

Intended to help the student who has already acquired some knowledge of the English language. It is designed to further develop the mechanics of grammar and usage. Intense practice on building a larger and more meaningful vocabulary. Section A: Sat: 8:30-10:30 am-6 wks-Begins 5/25/96-Course #: [00.352-011]-Tuition: \$55.00

Section B: Sat: 8:30-10:30 am-6 wks-Begins 7/13/96-Course #: [00.352-021]-Tuition: \$55.00

English as a Second Language - Advanced

[00.353-011]
Summer I

Instructor: Sr. Cecile Duquette, s.c.o.

For students who have enough English grammar to be able to understand and converse. Through intense grammatical structures and listening/comprehension skills, students will feel more comfortable using English at work and at home. Wed: 5:30-7:30 pm-6 wks-Begins 5/22/96-Tuition: \$55.00

COMMUNITY EDUCATION (Noncredit) Course Listing

*English Pronunciation for Foreign-Born Speakers I [see #'s below] Summer I & II

Instructor: Gailanne Desmond

Developed for those who have a good command of the English language, but find their accent to be a problem. Students will improve listening skills necessary to discriminate between sounds. A personal speech analysis and participation in drill activities to improve pronunciation patterns will also be a part of the class. Students are encouraged to bring a tape recorder and blank cassettes to class. Section A: Thurs: 6:00-7:30 pm—6 wks—Begins 5/23/96—Course #: [00.354-011]—Tuition: \$55.00
Section B: Thurs: 6:00-7:30 pm—6 wks—Begins 7/11/96—Course #: [00.354-021]—Tuition: \$55.00

English as a Second Language – Writing for Everyday Use [00.356-011] Summer I

Instructor: Sr. Cecile Duquette, s.c.o.

Beginners to intermediate level students develop the writing skills necessary in practical life situations. Sentence structure and meaningful, well-constructed paragraphs (with emphasis on individual differences) are the main objectives of this course.

Tues: 5:30-7:30 pm—6 wks—Begins 5/21/96—Tuition: \$55.00

DANCE, FITNESS, SPORTS & RECREATION

NOTE: All participants must sign a statement of physical condition the first night of class.

*Tai-Chi [00.552-011] Summer I

Instructor: Rachel Robinson

Tai-Chi is the traditional Chinese form of exercise practiced early in the morning in parks all over China. You are left feeling alert, yet very relaxed with increased focus, harmony, balance and strength. The exercise is done very slowly and all ages can benefit.

Sat: 9:00-11:00 am—6 wks—Begins 5/25/96—Tuition: \$55.00

*Yoga [see #'s below] Summer I

Instructor: Lynn Simon

Yoga is a science of self-care, with deep relaxation without the strain and fatigue of other types of exercise. Relieve tension and stress while strengthening, stretching, and toning the body. We will learn postures, breathing and relaxation techniques. Bring a mat or blanket.

Section A: Tues: 6:30-8:00 pm—6 wks—Begins 5/21/96—Course #: [00.504-011]—Tuition: \$50.00

Section B: Sat: 9:30-11:00 am—6 wks—Begins 5/25/96—Course #: [00.504-012]—Tuition: \$50.00

NEW! *Intermediate Yoga [00.568-011] Summer I

Instructor: Lynn Simon

A continuing level class for students who want to "pick up the pace." Bring a mat.

Thurs: 6:30-8:00—6 wks—Begins: 5/23/96—Tuition: \$50.00

*Meditation [00.505-011] Summer I

Instructor: Lynn Simon

Meditation, a tool for personal growth, helps us "let go" and regain control of body and mind. Heighten creativity, awareness, calm oneself through "relaxation response."

Tues: 8:15-9:30 pm—6 wks—Begins 5/21/96—Tuition: \$35.00

*Meditation II [00.569-011] Summer I

Instructor: Lynn Simon

A continuing level class for "experienced" meditators.

Thurs: 8:15-9:30 pm—6 wks—Begins 5/23/96—Tuition: \$35.00

Boating Skills & Seamanship [00.525-011] Summer I

Instructors: Arnold & Elizabeth

Greenhouse, U.S. Coast Guard Auxiliary

Designed for the beginning boater or the boater who wants to update his/her knowledge. Topics covered include boat construction and nomenclature, boat handling, safety, and legal requirements, navigation rules, aids to navigation, trailering, and marlinspike seamanship. For additional information call (508) 458-7676.

Tues: 7:30-9:30 pm—6 wks—Begins 5/21/96—Tuition: \$45.00

Adult Swimming & Recreation [00.520-011] Summer I

Instructor: Julie McCormick

For the 1st class meeting, beginners and intermediates 18 yrs. of age or older will meet together at 6:00 pm where the participants' abilities will be tested. Students are then placed in the proper class category for the next class session. Participants are expected to sign a statement of physical condition. Classes are co-ed.

Beginners: Prepares the nonswimmer for safe, recreational activity in or about the water.

Fri: 6:00-7:00 pm—Recreation period: 7:00-7:30 pm—6 wks—Begins 5/24/96—Tuition: \$80.00

Intermediates: Familiarizes participants with proper stroke mechanics in 5 categories: elementary backstroke, side-stroke, breast stroke, front crawl, and distance swimming.

Fri: 7:30-8:30 pm—Recreation period: 7:00-7:30 pm—6 wks—Begins 5/24/96—Tuition: \$80.00

Attention HVAC Professionals

HVAC Contractors, Refrigerant Suppliers, Building Managers

UMass Lowell Special Programs and the Mechanical Engineering Department are pleased to offer **EPA-approved Air Conditioning/Refrigeration Certification (Types I, II, III, & Universal)** program. For further details about this program call **508-934-2405.**

Fly Tying [00.526-011] Summer I

Instructor: Jack Johnson

Basic Fly tying instruction covering the dry fly, wet fly, streamer, bucktails, and salmon flies. Tying techniques for other types of flies to be used for salmon, trout, bass and saltwater fishing. Students must bring scissors, vise, cement.

Tues: 6:30-9:30 pm—7 wks—Begins 5/21/96—Tuition: \$70.00

Fly Fishing [00.527-011] Summer I

Instructor: Jack Johnson

This comprehensive course will teach the beginning fly fisher the history, equipment, quarry, habitat, behavior of fish, casting and many other aspects of fly fishing as a recreational sport.

Wed: 6:30-9:30 pm—7 wks—Begins 5/22/96—Tuition: \$70.00

Wine Tasting Workshop – Connoisseur [00.540-011] Summer I

Instructor: Charles Saunders

An introduction to the major wine regions, varieties and types. Tasting and serving techniques will be explored, along with the fundamentals and uses of wine.

Approximately 25 wines will be tasted. An additional \$25.00 to cover the cost of the wines is due at the 1st meeting. Students must be of legal drinking age.

Tues: 7:00-9:30 pm—6 wks—Begins 5/21/96—Tuition: \$45.00

Wine Tasting Workshop – Advanced (Oenophile) [00.541-011] Summer I

Instructor: Charles Saunders

An advanced wine workshop which explores more details and specific regions of: California, France, Italy, Portugal and Spain. Approximately 35 wines will be tasted. An additional \$35.00 to cover the cost of the wines will be collected at the 1st meeting. Students must bring 2 glasses to each class. Students must be of legal drinking age.

Wed: 7:00-9:30 pm—6 wks—Begins 5/22/96—Tuition: \$45.00

Beginning Magic [00.551-011] Summer I

Instructor: Donald Sanborn

This course is designed for teens and adults. Students will learn two or three feats of magic per night and be able to perform them using sleight of hand and self-working effects with cards, coins and readily available props. Also covered will be magic stores, associations, and magazines. Students should bring a deck of cards to the first lecture.

Thurs: 7:00-9:30 pm—7 wks—Begins 5/23/96—Tuition: \$65.00

FINANCE & REAL ESTATE

Actions taken as a result of these courses is the sole responsibility of the participant. UMass Lowell assumes no responsibility.

Personal Financial Planning [00.601-011] Summer I

Instructor: Chris Outchcunis

This course will cover a variety of personal money management topics including: building a financial plan, savings, insurance, tax-advantaged investments, real estate investments, stocks and bonds, personal budgeting, financing children's education, retirement planning and investing in an IRA/Keough.

Wed: 7:00-9:30 pm—4 wks—Begins 5/22/96—Tuition: \$40.00

NEW! *Retirement Planning for Teachers [00.633-011] Summer I

Instructor: Bonnie Hepburn

How will Social Security and other pensions affect your Massachusetts Teachers' Retirement Pension? Does buying back time in the plan make sense? Is it smart to contribute to a TSA? How much? These questions and more, including a personal retirement plan based on your own projected income and expenses, will be addressed. Ms. Hepburn is a Certified Financial Planner.

Mon: 3:30-5:30 pm—1 day—5/6/96—Tuition: \$20.00

CAREERS

NEW! Assertive Presentation Skills [00.452-011] Summer I

Instructor: David Favreau, M. Ed., L.C.S.W.

Assertive Presentation Skills will help you to develop and deliver effective assertive presentations. Class time will address presentation preparation, assertive presentation styles, dealing with hostile audiences and your fears.

Weekly homework assignments. Note: This class can be used for CEU's/P.D. Points for educators.

Wed: 5:30-7:30 pm—5 wks—Begins 5/22/96—Tuition: \$35.00

NEW! Energize Your Voice [00.471-011] Summer I

Instructor: Arlene Slater-Stone

Using breath management, you will learn how to increase your body's use of oxygen, enhance stamina, eliminate hoarseness, improve voice projection, and improve your telephone image. Arlene is an accomplished opera singer with leading roles in major European opera houses.

Wed: 6:00-7:30 pm—6 wks—Begins 5/22/96—Tuition: \$55.00

Color Your Rainbow [00.407-011] Summer I

Instructor: Joan Kilday

A career/life workshop designed to identify new career/job opportunities using self-assessment techniques. Participants will use Richard Bolles', *What Color is Your Parachute* or *How to Create Your Ideal Job* and the Harrington-O'Shea Career Decision Making System. (Book is available at commercial bookstores.)

Sat: 9:00 am-Noon—4 wks—Begins 6/8/96—Tuition: \$45.00

SKILL ENHANCEMENT & REFRESHER

*Introduction to Keyboarding [00.706-011] Summer I

Instructor: Claire Bickford

Build your speed and confidence. This course is for students who have little or no experience on typewriters or computers. Using IBM® compatible personal computers, students will learn the basic alpha and numeric keys.

Sat: 9:00-11:00 am—6 wks—Begins 5/25/96—Tuition: \$70.00

NEW! *Macintosh for Office Personnel [00.945-011] Summer I

Instructor: Joanne Gagnon-Ketchen

This Macintosh computer course is geared towards office personnel (or those wishing to gain employment skills in this area). The course is techniques and tips for creating and formatting correspondence, memoranda and reports as well as effective ideas in document design in relation to tables, charts, graphics and borders. *Prerequisite: Basic knowledge of Macintosh computer.*

Thurs: 6:30-8:30 pm—6 wks—Begins 5/23/96—Tuition: \$45.00

*GRE Test Preparation [00.725-011] Summer I

Instructor: Timothy Hall

A review of subject matter, test-taking strategies, and problem solving. Students will answer sample test questions and take a full-length practice test.

Tues: 6:30-8:30 pm—8 wks—Begins 5/21/96—Tuition: \$90.00

*GMAT Test Preparation [00.726-011] Summer I

Instructor: Timothy Hall

A review of subject matter, test-taking strategies, and problem solving. Students will answer sample test questions and take a full-length practice test.

Wed: 6:30-8:30 pm—8 wks—Begins 5/22/96—Tuition: \$90.00

*LSAT Test Preparation [00.727-011] Summer I

Instructor: George E. Guay III, J.D.

By augmenting students' test-taking skills, this course can improve an applicant's chances for entering law school. The four areas covered: reading comprehension, analytic reasoning, logical reasoning, and writing sample will be examined and specialized strategies developed for each topic. Test-taking skills will be honed by answering sample test questions and taking a full-length practice test. Class discussion will include a review of the steps involved in the law school application process. Two ARCO LSAT guides to be purchased separately.

Sat: 9:00 am-Noon—8 wks—Begins 5/26/96—Tuition: \$90.00

*SAT Verbal Skills Workshop [00.816-011] Summer I

Instructor: Cathy Ronan, M.Ed.

This course is designed for high school students who will be taking the SAT's for college admission. The focus is on reading comprehension, sentence completion, analogies, and time constraint techniques. Students will answer sample test questions and take practice tests.

Tues: 6:00-8:00 pm—8 wks—Begins 5/21/96—Tuition: \$70.00

*SAT Math Skills Workshop [00.817-011] Summer I

Instructor: Timothy Hall

This course is designed for high school students who will be taking the SAT's for college admission. The four areas covered: arithmetic, algebra, geometry, and quantitative comparison.

Thurs: 6:00-8:00 pm—8 wks—Begins 5/23/96—Tuition: \$70.00



Weekend Seminars!

For further information on these workshops, please call Cathy Kendrick at (508) 934-2495. To register, call the Office of Enrollment Services at (508) 934-2700.

*Entrepreneurship: Starting and Succeeding in Any Type of Business [see #'s below] Summer I & II

Instructor: Mel Epstein, President and founder of Business Strategies, a consulting firm in Cambridge, MA. This seminar is for the person who is considering starting his or her own business. It covers the four key elements of a strategy for becoming a successful entrepreneur: choosing the business that is right for you, organizing, financing, and marketing. Includes answering legal and tax questions, record keeping, raising money, preparing a business plan, marketing, motivation, and selling. **(HBS)**
Section A: Sat: 10:00 am-6:00 pm—1 day—5/18/96—Course #: [00.001-011]—Tuition: \$74.00
Section B: Sun: 10:00 am-6:00 pm—1 day—7/14/96—Course #: [00.001-021]—Tuition: \$74.00

*Starting Your Own Import-Export Business I [see #'s below] Summer I & II

Instructor: Mel Epstein

This seminar covers how to develop a complete import-export strategy: selecting products, identifying distributors, arranging transportation and payments, satisfying U.S. Customs requirements, and meeting export regulations. **(HBS)**

Section A: Sun: 10:00 am-6:00 pm—1 day—5/26/96

Course #: [00.002-011]—Tuition: \$74.00

Section B: Sat: 10:00 am-6:00 pm—1 day—7/13/96

Course #: [00.002-021]—Tuition: \$74.00

PROFESSIONAL INSTITUTES

*Starting Your Own Consulting Practice

[00.004-011]
Summer I

Instructor: Mel Epstein

For those in any field interested in starting and succeeding in consulting. Covers the three key elements of success in consulting: organizing, financing, and marketing. Topics include: identifying potential clients, advertising, sales presentations, pricing your services, closing a sale, translating your expertise into advice, writing successful proposals, and estimating time required to complete a project.

Sat: 10:00 am-6:00 pm-1 day-6/1/96-Tuition: \$74.00

*Starting your Own Mail Order Business

[00.005-011]
Summer I

Instructor: Mel Epstein

Learn the basics of succeeding in the mail order business by following the six key steps: developing your mail order concept, selecting merchandise, preparing an ad or catalog, renting mailing lists, and monitoring results. Includes a Harvard Business School case study, and a video of L.L. Bean's methods for managing a mail order business. Learn how to begin with a classified ad, how to estimate your response rate, and how to use a financial feasibility formula for a mail-order venture. (HBS)

Sun: 10:00 am-6:00 pm-1 day-6/2/96-Tuition: \$74.00

*Starting & Succeeding in the Catering and Restaurant Business

[00.008-011]
Summer I

Instructor: Mel Epstein

Opportunities abound for the catering and restaurant entrepreneur with a well-prepared business plan (more than 40% of the food dollar is consumed outside the home). This seminar covers preparing a complete business plan for a successful catering and restaurant business. Defining Your Food Service Concept, Organizing, Financing and Marketing. We will show you how to advertise, plan menus, analyze costs to increase profits, determine the best location, raise money and motivate your staff. Includes extensive handouts illustrating successful catering and restaurant management practices. (HBS)

Sat: 2:00 pm-6:00 pm-1 day-5/25/96-Tuition: \$40.00



MANAGEMENT INSTITUTE

NEW! *Internal Consulting Skills

[00.020-011]

Instructor: Mel Epstein

This seminar covers the complete process of being an effective internal consultant: developing a relationship; communicating concisely; determining what is to be achieved; establishing an implementation program; scheduling regular meetings; monitoring progress; achieving results; and concluding the current phase of work. You will learn how to analyze your interactions with your client, combine process and substance, be time effective, increase productivity, use the LEAPS process, and understand the potential and limits inherent in the internal consulting relationship.

Wed: 9:00 am-1:00 pm-1 day-6/5/96-Tuition: \$75.00

*Total Management Effectiveness Laboratory

[00.035-011]
Summer I

Instructor: Mel Epstein

The key to success is knowing how to get results with the people and resources available to you. This seminar covers how to use the four key elements of effective management to get results: planning, organizing, leading, and monitoring. We will assist you in improving your practical management skills such as communicating effectively, delegating appropriately, and monitoring without meddling. Using a series of video and Harvard Business School case studies, we will illustrate the management techniques you can use to succeed. (HBS)

Mon: 10:00 am-6:00 pm-1 day-5/20/96-Tuition: \$135.00

*Finance & Accounting for Non-Financial Managers

[00.034-011]
Summer I

Instructor: Mel Epstein

For managers in all fields who want to understand the essentials of finance and how to use finance successfully in their work. Covers the income statement, the cash flow statement and the balance sheet, the five types of financial ratios, budgeting and break-even analysis, the time value of money, making projections, raising venture capital, and preparing a business plan. Includes Harvard Business School Case Studies. (HBS)

Wed: 10:00 am-6:00 pm-1 day-5/29/96-Tuition: \$135.00

*Selling & Managing the Sales Relationship

[00.026-011]
Summer I

Instructor: Mel Epstein

This seminar will show you how to use a proven client-centered method for increasing your sales. Includes how to make effective presentation on the telephone, to professional and industry associations, and at in-person meetings. Covers the 5 key steps in a sales presentation, how and when to close, and how to make every sales meeting a success (defined as learning how the potential client feels about your product and service). Includes a video on 24 ways to close a sale. You will have the opportunity to refine your techniques in a dialogue process with the seminar leader. We will cover the four key ways to attract new business and how to determine which way is the best for you and your company!

Fri: 9:00 am-5:00 pm-1 day-5/24/96-Tuition: \$99.00



MULTIMEDIA INSTITUTE

For more information on the Multimedia Workshops, call Cathy Kendrick at (508) 934-2495.

*Intro to Multimedia Basics

[00.923-011]
Summer I

Instructor: Darryl Benjamin,
President of Prototype Publishing, Inc.

What is multimedia? Who does it benefit? Discover the answers to these questions and more: learn what hardware and software you'll need to run multimedia animation, video and music, presentation packages, authoring tools, utilities, graphics, photographic images, games, education & training, and databases. Planning, creating, authoring and distributing multimedia presentations and CD-ROMs will also be covered.

Sat: 10:00 am-5:00 pm-1 day-May 18-Tuition: \$75.00

NEW! *Multimedia Cross-Platform Issues

[00.926-021]
Summer II

Instructor: Beatrice Lee, M.Ed.

For those interested in learning more about creating cross-platform multimedia documents for both Mac and Windows. Instructor will review important considerations involved in putting together a hybrid disc, file format compatibilities/incompatibilities, system palette concerns, testing your files and more.

Sat: 10:00 am-2:00 pm-1 day-August 3-Tuition: \$85.00

NEW! *DeBabilizer for Multimedia

[00.928-011]

Instructor: Beatrice Lee, M.Ed.

A powerful tool for anyone who creates or uses computer graphics - graphic artists, designers, desktop publishers, multimedia producers, and software programmers. DeBabilizer has been referred to as the "Swiss army knife" of graphics conversion because it can cut through the chaos and confusion of having multiple file formats. DeBabilizer's powerful conversion function and a variety of time-saving automated graphic processing and manipulation features will be presented. Participants will acquaint themselves with DeBabilizer through hands-on practice in editing images, converting bit depths, remapping and optimizing palettes, and batch processing graphics files. (Macintosh platform) Sat: 10:00 am-4:00 pm-1 day-August 10-Tuition: \$95.00

NEW! *Macromedia Director

[00.945-011]

Instructor: Beatrice Lee, M.Ed.

Learn to develop interactive multimedia projects using one of the world's most widely used multimedia authoring software packages: Macromedia's Director. Students will create interactive events, explore computer animation, and integrate these with text, video, and audio for use in impressive marketing presentations, interactive educational documents, or product demonstration pieces. Prerequisite: Basic familiarity with the Mac. This course will be offered in an intensive three-day format. Lunch is included. Mon-Wed: 9:00 am-5:00 pm-3 days-Meets July 29, 30, 31-Tuition: \$325.00

New Technical Seminars for Business & Industry



INTERNET INSTITUTE

NEW! *The Internet: An Introduction

[see #s below]
Summer I & II

Lecture, discussion, demo, hands-on. Platforms available: Mac/Windows. An overview of the tools, resources and on-line research and retrieval capabilities of the Internet. Participants will examine such widely used programs as electronic mail, telnet, FTP, list serves, Archie, Gopher, Fetch, Netscape, HTML and WWW. Through Lecture/demo and hands-on activities, participants will gain a working knowledge of the net and gain an insight into the research and business assets of the net. New technologies such as Java and Shockwave will also be presented. Mac and PC users will learn about the hardware, software and connection services they need to get on-line. Breakfast and lunch included. Breakfast will be served at 8:00 am.

Section A: Mon: 9:00 am-5:00 pm-1 day-May 13-Course #: [00.946-011]-Tuition: \$125.00

Section B: Mon: 9:00 am-5:00 pm-1 day-June 10-Course #: [00.946-012]-Tuition: \$125.00

Section C: Mon: 9:00 am-5:00 pm-1 day-Aug.5-Course #: [00.946-021]-Tuition: \$125.00

NEW! *Creating Interactive Web Pages with Java and Javascript

[see #s below]
Summer I & II

Lecture, discussion, extensive hands-on. Platforms: Mac/Windows. Java allows for the creation of Web Pages that users can interact with on World Wide Web. Java is a simple (compared to C and C++), object oriented language which works well with the TCP/IP and HTML protocols of the internet and, because compiled Java is architecture-neutral, Java applications are ideal for a diverse environment such as the internet. Breakfast & lunch included. Breakfast will be served at 8:00 am.

Section A: Tues-Thurs: 9:00 am-5:00 pm-3 days-May 14, 15, 16-Course #: [00.947-011]-Tuition: \$600.00

Section B: Tues-Thurs: 9:00 am-5:00 pm-3 days-June 11, 12, 13-Course #: [00.947-012]-Tuition: \$600.00

Section C: Tues-Thurs: 9:00 am-5:00 pm-3 days-Aug.6, 7, 8-Course #: [00.947-021]-Tuition: \$600.00

NEW! *Creating Interactive Web Pages with Macromedia Director's Shockwave

[see #s below]
Summer I & II

Lecture, discussion, extensive hands-on. Platforms: Mac/Windows. Macromedia Director developers can now create interactive web pages using a Director plug-in called Shockwave. Shockwave allows users to create interactive advertising, promotions, entertainment, and compelling user environments. Shockwave can transform Web pages into dynamic, interactive multimedia productions that load as quickly as static images. This introductory course will go over the basics of Director and show how applets can be made using Shockwave. Breakfast & lunch included. Breakfast will be served at 8:00 am.

Section A: Wed & Thurs: 9:00 am-5:00 pm-2 days-May 22, 23-Course #: [00.948-011]-Tuition: \$400.00

Section B: Wed & Thurs: 9:00 am-5:00 pm-2 days-June 19, 20-Course #: [00.948-012]-Tuition: \$400.00

Section C: Wed & Thurs: 9:00 am-5:00 pm-2 days-Aug. 14, 15-Course #: [00.948-021]-Tuition: \$400.00

NEW! *Commerce on the Web

[see #s below]
Summer I & II

Lecture, discussion, hands-on. Platforms: Mac/Windows. This course will explore the current opportunities for information users and information providers to do business on the Internet. The course will look at Web "malls" and other commercial sites, PR and informational sites, advertising, transaction management and support services on the Web. Breakfast and lunch included. Breakfast will be served at 8:00 am.

Section A: Fri: 9:00 am-5:00 pm-1 day-May 24-Course #: [00.949-011]-Tuition: \$125.00

Section B: Fri: 9:00 am-5:00 pm-1 day-June 21-Course #: [00.949-012]-Tuition: \$125.00

Section C: Fri: 9:00 am-5:00 pm-1 day-Aug.16-Course #: [00.949-021]-Tuition: \$125.00

NEW! *Creating Documents (HTML), Graphic Design and Multimedia for the WWW

[see #s below]
Summer I & II

Lecture, discussion, extensive hands-on. Platforms: Mac/Windows. Through Lecture/Demo and hands-on activities, participants will gain a working knowledge of the Web and learn how to use its communication language, HTML. Designing effective home pages using sound, video and pictures will be the focus of this course. Breakfast & lunch included. Breakfast will be served at 8:00 am.

Section A: Mon & Tues: 9:00 am-5:00 pm-2 days-May 20, 21-Course #: [00.950-011]-Tuition: \$400.00

Section B: Mon & Tues: 9:00 am-5:00 pm-2 days-June 17, 18-Course #: [00.950-012]-Tuition: \$400.00

Section C: Mon & Tues: 9:00 am-5:00 pm-2 days-Aug. 12, 13-Course #: [00.950-021]-Tuition: \$400.00

NEW! *Setting Up and Running WWW Servers

[see #s below]
Summer I & II

Lecture, discussion, extensive hands on. Platforms: Mac/Windows. This course teaches basic skills needed by the system administrator to set up and manage a World Wide Web site. The introductory course also includes information about newsgroups, ftp, gopher, etc. The course includes information on server software for UNIX, Mac, and Windows environments, ftp, gopher, news, email, obtaining and compiling WWW server software and Security issues: fire walls, etc. Breakfast & lunch included. Breakfast will be served at 8:00 am.

Section A: Wed-Fri: 9:00 am-5:00 pm-3 days-May 29, 30, 31-Course #: [00.951-011]-Tuition: \$600.00

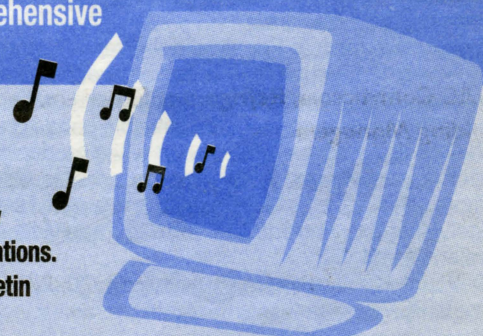
Section B: Wed-Fri: 9:00 am-5:00 pm-3 days-June 26, 27, 28-Course #: [00.951-012]-Tuition: \$600.00

Section C: Wed-Fri: 9:00 am-5:00 pm-3 days-Aug.21, 22, 23-Course #: [00.951-021]-Tuition: \$600.00

UMass Lowell offers one of the largest and most comprehensive programs of study in multimedia applications

- State-of-the-art Multimedia Labs
- Courses available on both Mac and PC platforms

In addition to the noncredit Multimedia Institute courses, the University also offers a credit certificate program in Multimedia Computer Applications. For further information, see the Certificate Program section of this bulletin on page 20 or call 508-934-2942.



NEW! *Public Policy Issues and the Internet

[see #s below]
Summer I & II

Lecture, discussion, demonstration. Platforms: Mac/Windows. We will take a look at the converging trends in telecommunications and try to assess their political and economic impacts. As we move from 14.4 modems, to ethernet, to ISDN, to cable and the ways that these networks carry new types of traffic, the separateness of what was once the phone, the TV and the computer start to converge thus raising all sorts of interesting questions. Discussion/debate on: copyright, issues of individual privacy, system security, commercialization of the net, public access to the Net, who should determine the structure of the net, liability and free speech issues for the Internet, the roles of government and the market economy, intellectual property issues for the Internet and the legal status of an Internet site operator. Breakfast & lunch included. Breakfast will be served at 8:00 am.
Section A: Tues: 9:00 am-5:00 pm-1 day-May 28-
Course #: [00.952-011]-Tuition: \$125.00
Section B: Tues: 9:00 am-5:00 pm-1 day-June 25-
Course #: [00.952-012]-Tuition: \$125.00
Section C: Tues: 9:00 am-5:00 pm-1 day-Aug. 20-
Course #: [00.952-021]-Tuition: \$125.00

NEW! *VRML: Virtual Reality Modeling Language and 3D on the World Wide Web

[see #s below]
Summer I & II

Lecture, discussion, demonstration, hands-on. Platforms: Mac/Windows. VRML is a 3-dimensional interface to the World Wide Web. Using VRML, it is possible, even easy, to create realistic environments that look and act much like the real world. Includes survey of VRML browsers, building VRML applets, survey of the different tools available for VRML authors and site administrators. Breakfast & lunch included. Breakfast served at 8:00 am.
Section A: Fri & Tues: 9:00 am-5:00 pm-2 days-May 24, 28-Course #: [00.953-011]-Tuition: \$400.00
Section B: Fri & Mon: 9:00 am-5:00 pm-2 days-June 21, 24-Course #: [00.953-012]-Tuition: \$400.00
Section C: Fri & Mon: 9:00 am-5:00 pm-2 days-Aug. 16, 19-Course #: [00.953-021]-Tuition: \$400.00

NEW! *Using the Web as a Repository for Information on Education, Industry, Research and Government

[see #s below]
Summer I & II

Lecture, discussion, extensive hands-on. Platforms: Mac/Windows. Get the skills you need to find and use information available on the Internet in ftp repositories and in gopher and Web sites. Participants will access libraries, government and research documents and business infocenters. Breakfast & lunch included. Breakfast will be served at 8:00 am.
Section A: Fri: 9:00 am-5:00 pm-1 day-May 17-
Course #: [00.954-011]-Tuition: \$125.00
Section B: Fri: 9:00 am-5:00 pm-1 day-June 14-
Course #: [00.954-012]-Tuition: \$125.00
Section C: Fri: 9:00 am-5:00 pm-1 day-Aug. 9-
Course #: [00.954-021]-Tuition: \$125.00



COMPUTER GRAPHICS & PREPRESS INSTITUTE

***Introduction to Macintosh Basics**

[see #s below]
Summer I & II

Instructor: Angela Harkins, Computer Training Consultant
Provides students with an introduction to the Macintosh. Using the keyboard and mouse, drop-down and pop-up menus, creating and naming new files/folders, saving documents, using the trash can, memory specifications and requirements, desk accessories, and some keyboard short-cuts. (A requirement for all Multimedia students who do not have basic familiarity with the Macintosh.)
Section A: Sat, 10:00 am-5:00 pm-1 day-May 11-
Course #: [00.902-011]-Tuition: \$70.00
Section B: Sat, 10:00 am-5:00 pm-1 day-August 10-
Course #: [00.902-021]-Tuition: \$70.00

***Introduction to PageMaker® 6.0**

[00.916-011]
Summer I

Instructor: Gretchen Wichtermann, President, Wichtermann Graphics
This hands on workshop will provide a step-by-step introduction to Adobe® PageMaker, the most widely used page layout software application on the Mac. Initial topics include opening a new or pre-existing PageMaker publication or template, formatting the page(s), placing and manipulating graphics and text blocks, defining text styles and attributes, setting up master pages, and using column guides. Note: Students should have basic, hands-on familiarity with the Macintosh. Limit: 20.
Sat: 9:00 am-12:00 noon-3 days-June 1, 8, 15-
Tuition: \$185.00

***Advanced PageMaker® 6.0**

[00.918-021]
Summer II

Instructor: Darryl Benjamin
Picks up where Intro to PageMaker leaves off. With the basics now under your belt, the gap between knowing the mechanics of PageMaker and practical experience will be closed. Students will gain valuable hands-on experience using advanced features while producing newsletters, brochures, flyers, long documents, ads, and more. This course will also review the new features in PageMaker 6.0. Prerequisite: Intro to PageMaker or equivalent. Limit: 20.
Sat: 9:00 am-12:00 noon-3 days-July 13, 20, 27-
Tuition: \$185.00

NEW! *CorelDRAW for Windows

[00.955-021]
Summer II

Instructor: Darryl Benjamin
An introduction to one of the most popular drawing applications for the Windows platform. Learn to create and edit outlines and fills, modify and organize objects, work with clip art, use text and symbols as art, create special effects, and use different file formats and fonts.
Mon & Wed: 7:00-9:00 pm-4 days-Aug. 19, 21, 26, 28-
Tuition: \$95.00

***Introduction to Adobe Photoshop**

[00.932-021]
Summer II

Instructor: Judy Glidden
Gain a basic knowledge of Adobe Photoshop, one of the most versatile imaging software applications on the market. Students should have basic, hands-on familiarity with the Macintosh.
Sat, 10:00 am-2:00 pm-2 days-Aug. 17 & 24-Tuition: \$150.00

New Technical Seminars for Business & Industry



PC USER INSTITUTE

Learn to use some of the most popular software application programs to help you become more productive in your job, or to assist you with your personal computing needs. All of our user-friendly noncredit courses are designed to provide practical computer applications training. Taught by experienced professionals, these courses are offered on IBM® PC compatible computer systems. Certificates are available upon recommendation of the instructor.

Since class size is limited, early registration is encouraged.

For further information about the PC User Institute, please contact Cathy Kendrick at 934-2495.

***Intro to Personal Computers Using IBM PC Compatible**

[00.906-021]
Summer II

Instructor: Computer Training Consultants
Designed for those who have purchased or are considering purchasing a personal computer, or those who anticipate having to work with one. Topics will include what a personal computer can do, the memory unit, keyboard and operating system. A variety of software programs for word processing, spreadsheets, and database management will be discussed. No experience necessary. Mon & Wed: 7:00-9:00 pm-4 days-Aug. 20, 22, 27, 29-
Tuition: \$95.00

NEW! *Introduction to Windows 95

[00.956-011]
Summer I

Instructor: Computer Training Consultants
Designed for the user who is new to Windows and wants to become familiar with Windows 95, this course will cover everything from using the mouse, opening and closing windows, starting multiple programs, switching between them, and quitting them, to customizing your screen and mouse settings, working with drives, folders and files, copying, deleting and recycling files, and printing files.
Mon: 9:00 am-5:00 pm-1 day-June 10-Tuition: \$95.00

NEW! *Installing & Networking Windows 95

[00.970-011]
Summer I

Instructor: Computer Training Consultants
Designed for those interested in learning how to install and configure Windows 95 on networked machines, or for those who need to administer a network of Windows 95 machines in their jobs. Students will learn about Windows 95 system architecture, how to install Windows 95, how to install and configure networking components using Windows 95 built-in networking support, how to setup Windows 95 machines on a Novell NetWare or Microsoft network, complete administrative functions in Windows 95, and how to use the Dial-Up Networking client component of Windows 95.
Mon & Tues: 9:00 am-5:00 pm-2 days-June 17 & 18-
Tuition: \$385.00

NEW! *Introduction to Word 6.0 for Windows

[00.959-011]
Summer I

Instructor: Computer Training Consultants
This introductory course will acquaint the new user with creating Word for Windows documents. Upon completion of the training, you will be able to create, edit, save, and print documents. In addition, you will also learn how to create envelopes, cut and paste text, add headers and footers, and use the spell checker and thesaurus. Prerequisite: Intro to Windows or equivalent.
Tues: 9:00 am-5:00 pm-1 day-June 11-Tuition: \$95.00

NEW! *Introduction to Excel 5.0 for Windows

[00.958-011]
Summer I

Instructor: Computer Training Consultants
This course will acquaint you with Excel for Windows. Upon completion of the training, you will be able to create, save, and print worksheets. You will also learn how to enter simple formulas, cut and paste data, and much more. Topics will include: worksheet design, edit fill and auto fill, erasing a range, saving your file, adjusting column widths, aligning data, setting numeric formats, and relative/absolute cell addressing. Prerequisite: Intro to Windows or equivalent skills.
Wed: 9:00 am-5:00 pm-1 day-June 12-Tuition: \$95.00

**We Can Teach PC Courses On-Site:
Call 934-4240**

NEW! *Introduction to PowerPoint for Windows

[00.963-011]
Summer I

Instructor: Computer Training Consultants
This course is designed to familiarize you with Microsoft PowerPoint for Windows. Upon completion of this training, you will be able to create, edit, save, and print or show a presentation. In addition, you will learn to use the drawing tools, work with symbols, and create graph charts. Prerequisite: Intro to Windows or equivalent skills.
Thurs: 9:00 am-5:00 pm-1 day-June 13-Tuition: \$95.00

NEW! *FileMaker Pro for Windows

[00.962-011]
Summer I

Instructor: Computer Training Consultants
This course will introduce one of the most popular file keeping and database programs for growing businesses. With Claris® FileMaker Pro you will learn how to customize your databases, create special business graphics, do mail merges, and more! Great for those looking for a better way to maintain mailing lists, track sales, manage records, or keep track of inventories.
Fri: 9:00 am-5:00 pm-1 day-June 14-Tuition: \$95.00

NEW! *Introduction to Access for Windows

[00.960-011]
Summer I

Instructor: Computer Training Consultants
This course is designed to familiarize you with Access for Windows. Upon completion of this training, you will be able to create, save, and print Access tables. In addition, you will be able to add records, query the database, delete records, and design a simple report. Prerequisite: Intro to Windows or equivalent.
Wed: 9:00 am-5:00 pm-1 day-June 19-Tuition: \$95.00

NEW! *Microsoft Office 4.2: Application Integration

[00.971-021]
Summer II

Instructor: Computer Training Consultants
This three-day intensive workshop is designed to provide individuals with working knowledge of the software products bundled into Microsoft Office: Word, Excel, PowerPoint, and Access. Students will learn the word processing, spreadsheet, database management, and business presentation graphics capabilities that are contained within Microsoft Office and that are used widely in business to support the most efficient office environments.
Mon-Wed: 9:00 am-5:00 pm-3 days-Aug. 5, 6, 7-
Tuition: \$325.00

NEW! *Windows NT Overview - 1/2 Day Seminar

[00.964-021]
Summer II

Instructor: Computer Training Consultants
This half-day seminar will provide an overview of Windows NT, why it was developed, hardware requirements, design goals, system components, etc. Covers the Windows NT server, Novell Netware, Windows for workgroups, protocols, and remote access services.
Mon: 9:00 am-12:00 noon-July 15-Tuition: \$150.00

NEW! *Introduction to Visual Basic 4.0

[00.961-021]
Summer II

Instructor: Computer Training Consultants
This course is designed to provide instruction in Visual Basic. During this course, you will learn how to program in the VB environment, create a working form, work with controls and properties, declare variables and constants, create menus, and work with dialog boxes. Prerequisite: Windows skills and some programming experience helpful. Class will be held at CDrive in Woburn, MA (directions will be sent upon registration).
Tues & Wed: 9:00 am-5:00 pm-2 days-July 16 & 17-
Tuition: \$325.00

NEW! *Introduction to the C Language

[00.965-021]
Summer II

Instructor: Timothy Niesen
This course will provide an introduction to one of the most widely-used programming languages. Instructor will cover composing and compiling simple programs, structuring, data types, arrays, pointers, structures, functions, and more. Basic programming knowledge is recommended.
Mon: 10:00 am-5:00 pm-1 day-July 22-Tuition: \$135.00

NEW! *Understanding C Pointers

[00.966-021]
Summer II

Instructor: Timothy Niesen
Designed for those with basic knowledge of C who would like to gain a better understanding of how C pointers work. Instructor will cover the benefits of using pointers effectively, their proper syntax, and how to define pointers to the different types of data.
Mon & Wed: 7:00-9:00 pm-2 days-July 22 & 24-
Tuition: \$95.00

NEW! *CC: Mail 2.0 for Windows

[00.967-021]
Summer II

Instructor: Computer Training Consultants
Learn to identify parts of the cc: Mail window and use Smart Icons to work faster and easier. Learn the basics of addressing, creating, and sending a message. Locate, retrieve, and read messages. Responding to messages and sharing messages will be covered, along with printing messages to keep a permanent record of them. Held at CDrive in Woburn, MA (directions will be sent upon registration).
Mon: 9:00 am-12:00 noon-1/2 day-July 8-Tuition: \$65.00

NEW! *Intro to Lotus Notes

[00.968-021]
Summer II

Instructor: Computer Training Consultants
Lotus Notes can give your organization a much needed program on-line access to any information that the company wishes to share. Notes is highly customizable not only for the developer or network administrator, but for the end-user as well. Users can create private views, desktops and smarticons, and maintain their own copies of favorite databases. This one day seminar covers many of the more technical features of Notes that are essential to becoming a Notes power user. It is designed for users who want to learn more than how to open and close documents.
Tues: 9:00 am-5:00 pm-1 day-July 9-Tuition: \$185.00
Held at CDrive in Woburn, MA (directions will be sent upon registration).



HEALTH CARE INSTITUTE

For more information, call the Office of Special Programs at (508) 934-2405. To register, call the Office of Enrollment Services at (508) 934-2700.

NEW! *Stress Management [00.516-011]

Instructor: Paul Fierimonte

Stress affects every individual but is especially problematic for healthcare professionals whose jobs demand their full attention in order to maintain the required level of service. The workshop will review the different types of stress including eustress and distress in attempting to help attendees funnel their energies and turn distressful situations into creative ones.

Sat: 9:00 am-2:00 pm-5/25/96-Tuition: \$60.00

NEW! *HIV/Aids Education [00.517-011]

Instructor: Paul Fierimonte

This workshop will focus upon the local, regional, and national prevalence of the HIV virus; methods of transmission; methods of prevention; social and political consequences of HIV infection; universal precautions; sexual behavior and HIV risk; and risky behaviors. Issues that are not usually discussed in workshops or in school will be discussed. Discrete topics will be reviewed.

Tues: 6:00-10:00 pm-5/21/96-Tuition: \$40.00

NEW! *Liability and Its Impact on Nursing [00.515-011]

Instructor: Pauline Ledebauche

This workshop focuses on the impact of legal liability on the practicing nursing professional. There will be a discussion on what liability exists, sample case studies, and methods of limiting vulnerability by practicing professionals. This program will not only apply to nursing but other healthcare related fields where the liability is similar, if not greater.

Thurs: 6:00-9:00 pm-5/30/96-Tuition: \$40.00

NEW! *Therapeutic Touch [00.518-011]

Instructor: Catherine Rosa

The Krieger/Kunz method of therapeutic touch, developed 25 years ago, but just recently gaining acceptance by the healthcare industry (and demand by patients) induces relaxation responses for acute pain (i.e., fever, migraines, cancer-related symptoms). With this technique, the healee can influence their own healing process. This hands-on workshop will provide a brief history and a theoretical approach of the method as well as teaching the actual technique. Students are advised to wear comfortable clothing as they will be the providers and recipients of the technique. Enrollment is limited.

Sat: 9:00 am-4:00 pm-6/8/96-Tuition: \$60.00

NEW! *Tobacco Control & Cessation [00.519-011]

Instructor: Julie Arel

Recent reports demonstrate the growing use of tobacco products (cigarettes as well as chewing tobacco) by high school and even middle school students. While individuals who adopt smoking as adults may quit more easily, those who start as youngsters have significantly greater problems quitting their tobacco habit. This workshop will review the epidemiological and medical factors related to the control and cessation as well as the efforts by various government bodies (at federal, state, and local levels) to reduce smoking.

Wed: 7:00-9:00 pm-6/19/96-Tuition: \$30.00

Novell Authorized Education

Certified

Novell Administrator (CNA)®

and the revised

Certified

Novell Engineer (CNE)®

Authorized training programs

that add to the existing, credit-based

Novell Education Academic Partner

(NEAP)® program, the Certificate in

Data/Telecommunications with

Novell® Track, and the Information Systems

A.S./B.S. Degrees.

Call the Office of Special Programs at
(508) 934-2405 for details.



EDUCATION INSTITUTE

The Education Reform Act of 1993 requires that all educators in the state of Massachusetts be recertified by 1999. In an effort to help teachers meet new certification requirements, the University of Massachusetts Lowell College of Education and Continuing Education are offering a variety of non-credit workshops that can be applied towards teacher recertification.

Each of the Teacher Recertification Workshops meet for 12 contact hours and teachers earn 12 Professional Development Points (PDP's) toward their recertification, unless otherwise noted.

For further information on these workshops, call the Office of Special Programs at (508) 934-2405.

***Legal Policy in Education** [00.440-011]

Instructor: Attorney Patrick Schettini, Assistant Principal, Reading Memorial High School

A survey of issues pertaining to student's rights, teacher's rights, and legal issues surrounding the curriculum. Other topics which will be covered include: the issue of religion and the schools, child abuse and sexual harassment, and labor/employment issues.

Tues & Wed: July 16 and 18, 9:00 am-4:00 pm-Tuition: \$125.00

NEW! *Contemporary World Literature [00.465-011]

Instructor: Francesca Tillona

A comparative study of literary works in English from India, Africa, Australia, the Caribbean, and other areas with multicultural and multilingual traditions.

Mon & Wed: August 26 & 28-10:00 am-5:00 pm

NEW! *Survival Skills for Substitute Teachers [00.444-011]

Instructor: Bridgette Driscoll

Provides training and staff development for both certified and non-certified professional substitute teachers. This course will focus on the problems and concerns most frequently encountered by substitutes on a day-to-day basis. Specific topics include: defining the role of the substitute teacher, expectations, classroom management, creating resources, multicultural awareness, special education programs and Chapter 1.

Mon: 3:30-6:30 pm-4 sessions-August 5-Tuition: \$125.00

***Know Your Macintosh: A to Z** [00.435-011]

Instructor: Steve Mazzola, UMass Lowell

An in-depth look at the Macintosh for beginners. Learn the essentials of getting the most out of your Mac. Designed for teachers who are interested in using a Macintosh in the classroom. Limit: 15.

Mon: 5:30-8:30 pm-4 weeks-Begins June 3-Tuition: \$125.00

***The Internet Sampler:** [00.436-011]

Wandering the World Wide Web

Instructor: Mike Lucas, UMass Lowell

An exploration of the Internet and its various resources. Designed for teachers who want to travel the information superhighway and understand the World Wide Web.

Wed: 5:00-8:00 pm-4 weeks-Begins 7/10/96-Tuition: \$125.00

NEW! *Introducing Environmental [00.463-011]

History into the Social Studies Curriculum

Instructor: Dean Bergeron, UMass Lowell

This workshop will focus on Environmental History and how it can become an integral part of the social studies curriculum. Participants will be introduced to how the environment can be used as the focus for interdisciplinary teaching and the enhancement of student learning through use of computer technologies and hands-on involvement/learning experiences.

Tues: 4:00-7:00 pm-4 weeks-Begins May 21-Tuition: \$125.00

NEW! *Strategies for Involvement/ [00.464-011]

Learning in Teaching the American Civil War

Instructor: Dean Bergeron, UMass Lowell

Recent Civil War and Reconstruction literature will be discussed. Participants will be introduced to the use of computer technologies in the teaching of Civil War history. In addition, involvement/learning strategies (i.e., trial simulations, role playing, and political reenactment) will be considered.

Tues: 4:00-7:00 pm-4 weeks-Begins July 9-Tuition: \$125.00

***Reading the Poem** [00.419-021]

Instructor: Francesca Tillona, Ph.D.

Participants will explore the uses of poetry as a multifaceted teaching device and develop techniques for reading poetry with comprehension and confidence. Focusing on selected poems, participants will develop flexible and innovative approaches designed to expand student awareness of figurative language and poetic techniques, strengthen command of standard English grammar, & develop critical-thinking skills essential for lifelong learning.

Mon & Wed: June 24 & 26-10:00 am-5:00 pm

Tuition: \$125.00

1996 PLASTICS ENGINEERING SEMINARS AND WORKSHOPS

Offered throughout the year, UMass Lowell's Plastics Seminars and Workshops are highly respected throughout the plastics industry as a proven method of gaining both theoretical and practical information. In its fifteenth year and staffed by internationally respected experts, this program provides effective technical instruction applicable to plastic materials, processes, design and quality control. Numerous course offerings cover topics in such areas as Injection Molding, CAD/CAM, Blow Molding, Extrusion, Quality, Fundamentals, and more.

For a 1996 Plastics Seminars and Workshops brochure, please call the Office of Special Programs at
(508) 934-2405.

NEW! *Developing Participatory [00.467-021]

Workshops for Teachers

Instructor: Dr. Paul Cox

Through presentation, interview, large and small group discussion, modeling activities and evaluation, participants will identify a workshop topic from their areas of expertise and develop it into a workshop outline and presentation. Participants will prepare a workshop proposal, draft a workshop outline, develop and experiment with supporting lessons and activities, receive feedback and evaluation. Dr. Cox will present a process for developing successful participatory workshops for teachers based on a model developed by the staff of the Performing Arts Centers and Schools: Partners in Education program at the J.F. Kennedy Center in Washington, D.C.

Tues, Wed, Thurs, Fri: July 9, 10, 11, 12-9:00 am-12:00 noon-Tuition: \$125.00

NEW! *Creating Curriculum Guides [00.468-011]

based on The Arts Curriculum Framework

Instructor: Dr. Paul Cox

This workshop is designed for specialists in the Arts. The purpose of the workshop is to examine the Massachusetts Arts Curriculum Framework in light of developing new curriculum and curriculum guides. A comparison will be made between the Arts Framework and the National Standards. Participants will follow strands of the Framework through the curriculum development process from the Common Core of Learning to assessment. The future of Arts Curriculum will be discussed.

Mon: 4:00-7:00 pm-4 weeks-Begins June 3-Tuition: \$125.00

NEW! *Using Primary Source Documents [00.469-021]

and Artifacts to Teach Language Arts and History

Instructor: Sheila Kirschbaum,

Tsongas Industrial History Center

Offered in conjunction with the Tsongas Center. Teachers will explore a wide variety of primary source documents and artifacts culled from the Tsongas Industrial History Center and the Lowell National Historical Park. Teachers will be engaged in activities using such materials as mill girl letters, architects' plans, fire insurance maps, corporation hospital records, newspaper articles, editorial cartoons, plantation records, slave narratives, historical photographs, and cultural artifacts. Teachers will also learn how to locate primary source documents and artifacts from within their own communities, and share ideas for using these in the classroom. 12 Professional Development Points.

Sat: August 10 and August 17, 10:00 am-5:00 pm-Tuition: \$125.00

NEW! *Teaching Science in the Middle [00.467-021]

School

Instructor: Dennis Hunt, Massachusetts Outstanding

Biology Teacher for 1995

For students at the middle school level, science should be a "verb" and not a "noun"! Their age, maturity level, and learning profile demands hands-on fun types of science experiences. That is what this course will be all about. And because how a student learns science may be as important as the science material itself, emphasis will be placed on those teaching strategies like cooperative learning, portfolios, gaming techniques and simple labs that really work. Alternative assessment methods will be examined because this creative approach to teaching science does not conform to a "traditional" grading system.

Sat: 10:00 am-5:00 pm-2 days-June 1 & 8-Tuition: \$125.00

NEW! *Integrating Literature into the [00.470.021]

Physical Education Curriculum

Instructor: Renata McFarland-Bateman

This workshop will focus on how using children's literature as another vehicle to assist a student in developing creative movement skills, risk taking, cooperative learning, problem solving, comprehension of concrete and abstract thinking and processing new and old information in which cognitive, affective and psychomotor domains can be transferred to all realms of learning.

Mon-Thu: 9:00 am-12:00 noon-4 days-July 15, 16, 17, 18-Tuition: \$125.00

On-site training programs are available for individual school systems or groups of teachers. For further information, call Vera Ossen, Professional Development Coordinator, Center for Field Studies at (508) 934-4650.

UMass Lowell Certificate Programs

TRAINING FOR HIGH DEMAND CAREERS



Accounting

Required Courses:

- 67.101 Accounting Principles I
- 67.102 Accounting Principles II
- 67.203 Intermediate Accounting I
- 67.206 Cost Accounting
- 69.231 Business Finance

Electives (Choose 2):

- 67.204 Intermediate Accounting II
- 67.207 Auditing
- 67.209 Federal Income Taxes
- 67.280 Accounting for Not-for-Profit Institutions



Computer Proficiency

All of the courses in this certificate program can be applied towards the A.S or B.S. degree in Information Systems.

Required Courses:

- 92.202 Microcomputers & Applications Software
- 92.211 Intro. to Programming with C-I (or 92.267 C Programming)

Electives (Choose 3):*

- 90.230 Intro. to Multimedia
- 92.212 Intro. to Programming with C-II
- 92.219 BASIC Programming
- 92.265 Pascal Programming
- 92.268 C++ Programming
- 92.311 Introduction to the Unix Operating System
- 92.312 Unix Shell Programming
- 92.321 Discrete Structures I
- 92.360 Intro. to Data Structures/C
- 92.363 SPSS-X (Intro. to Data Analysis)
- 92.364 Problem Solving with C
- 92.470 Data/Telecommunications

*Or any 90 or 92 prefix computer mathematics course



Data/Telecommunications

Required Courses:

- 92.267 C Programming
- 92.311 Introduction to the UNIX Operating System
- 92.470 Data/Telecommunications
- 92.472 Local Area Networks
- 92.473 Computer Network Architecture and Protocol
- 92.475 Communication Network Management



Environmental Technology

Required Courses:

- 15.340 Hazardous Waste Management
- 15.378 Air Quality Management
- 15.420 Solid Waste Management
- 86.131 Environmental Chemistry I OR 84.121 Chemistry I
- 86.132 Environmental Chemistry II OR 84.122 Chemistry II

Electives (Choose 2):

- 15.280 Industrial Waste Treatment
- 15.356 Water Treatment
- 15.358 Wastewater Treatment
- 15.388 Pumps & Compressors
- 17.130 Electrical Basics & Lab OSHA "Haz Wopper" (OSHA 1910.120)
- 41.367 Environmental Law and Regulations



Multimedia Applications

Required Courses:

- 90.230 Introduction to Multimedia
- 90.231 Graphics for Multimedia
- 90.232 Desktop Video Production
- 90.233 Multimedia Authoring Software
- 90.235 Designing & Developing Interactive Media

Electives (Choose 2):

- 90.235 Programming for Multimedia
- 42.221 Writing for Interactive Media
- 70.265 Art with the Computer
- 90.236 Instructional Design for Multimedia
- 90.237 Topics in Multimedia
- 90.238 Designing Multimedia for the World Wide Web
- 91.113 Exploring the Internet
- 90.239 Multimedia Scripting Using Macromedia Director's Lingo

For information call (508) 934-2942.



Paralegal Studies

Required Courses:

- 41.103 Introduction to Paralegal Studies
- 41.387 Legal Research Methods
- 41.390 Litigation
- 44.301 Computer Applications for the Legal Profession

Electives (Choose 3):

- 41.363 Corporate and Property Law
- 41.370 Real Estate Law
- 41.376 Family Law
- 41.391 Federal Taxation Law
- 41.392 Wills, Trusts, & Estates
- 44.287 Legal Writing for Paralegals
- 44.435 Alternative Dispute Resolution
- 44.497 Paralegal Practicum/Internship

For information call (508) 934-2495.



Technical Writing

Required Courses:

- 42.401 Principles of Technical Writing
- 42.402 Software Writing
- 42.403 Advanced Software Writing
- 92.202 Microcomputer and Applications Software

Electives (Choose 2):

- 00.916 Desktop Publishing and a Computer Elective OR 2 Computer Electives



UNIX

Required Courses:

- 92.267 C Programming
- 92.311 Introduction to the UNIX Operating System
- 92.312 UNIX Shell Programming
- 92.360 Introduction to Data Structures

Electives (Choose 1):

- 92.268 C++ Programming
- 92.313 UNIX Internals Overview
- 92.314 UNIX System Interface Programming
- 92.316 UNIX System Administration
- 92.317 Developing Portable Applications



Wastewater Treatment

Required Courses:

- 15.261 Wastewater Treatment Plant Operations I
- 15.263 Wastewater Treatment Lab I
- 15.280 Industrial Waste Treatment
- 15.361 Wastewater Treatment Plant Operations II
- 15.363 Wastewater Treatment Lab II

Electives (Choose 2):

- 15.152 Water Biology
- 15.388 Pumps and Compressors
- 15.452 Operation and Maintenance of Wastewater Collection Systems
- 15.492 Water/Wastewater Plant Management
- 86.131 Environmental Chemistry I
- 86.132 Environmental Chemistry II



Water Treatment

Required Courses:

- 15.272 Water Supply and Treatment Operations I
- 15.274 Water Works Operations Lab I
- 15.355 Water Distribution Systems
- 15.372 Water Supply and Treatment Operations II
- 86.131 Environmental Chemistry I

Electives (Choose 2):

- 15.152 Water Biology
- 15.374 Water Works Operations Lab II
- 15.388 Pumps and Compressors
- 15.492 Water/Wastewater Plant Management
- 86.132 Environmental Chemistry II



Certificate in Internet System Administration

Required Courses:

- Introduction to the UNIX Operating System
- Internet Systems Administration
- TCP/IP Programming
- Managing Internet Information Services

Electives (Choose 2):

- HTML Development and CGI Programming
- Security Issues on the Internet
- Topics on the Internet:
- Internet Practicum/Internship



Certificate in Windows Development Programming

Required Courses:

- Visual Basic
- Introduction to Windows Programming with Object-Oriented Programming Tools
- Windows Programming in C and C++, Part I
- Windows Programming in C and C++, Part II
- Windows Programming for the Design of Interactive Systems
- Human Factors in the Design of Interactive Systems
- Windows Practicum/Internship



Certificate in International Trade

Required Courses:

- 49.320 Comparative Economic Systems (telecourse: Inside the Global Economy)
- 49.321 International Trade Partnerships
- 49.323 Legal and Finance Principles of International Trade
- 49.403 International Trade Theory

Electives (Choose 4):

- 46.121 Intro to International Relations Language I/Language II
- 91.113 Exploring the Internet
- 62.201 Marketing Principles
- 48.212 Cultures of the World
- 27.314 Packaging for the Environment
- 49.310 Economics of Less Developed Countries
- 49.322 Japan in the Global Economy
- 49.335 International Political Economy

NEW!

Certificate in Computer Assisted Manufacturing

The Certificate Program in Computer Assisted Manufacturing is designed to provide engineers, technicians, managers and those working in a manufacturing environment with an introduction to the computer as used to enhance industrial competitiveness. Coursework required for the Certificate is progressive beginning with two dimensional CAD drafting, three dimensional design, solid modeling, finite element analysis, and the use of the computer as an aid to machining (CAM). Students will apply various popular software packages and work with personal computers, workstations, and stand-alone computer-controlled machine tools. Elective coursework is designed to supplement the required courses through an examination of basic and advanced concepts which support the use of computers in engineering and manufacturing. Note: This certificate is subject to Faculty Senate approval.

Required Courses:

- 23.200 CADr (Computer Aided Drafting)
- 23.480 CADES (Computer Aided Design)
- 23.481 Applied CAD Design
- 23.419 Applied Computer Aided Manufacturing (CAM)

Electives (Choose 3)

- 23.101 Engineering Graphics I
- 23.102 Engineering Graphics II
- 23.301 Manufacturing Technology Laboratory
- 23.305 Manufacturing Processes OR
- 23.306 Electronic Manufacturing Technology
- 23.430 Industrial Automation
- 23.474 Design for Manufacture

NEW!

Certificate in Hazardous Waste Management

The Certificate Program in Hazardous Waste Management is designed to provide environmental technicians, engineers, managers and those working in the environmental field with an introduction to the issues of regulations and treatment technologies. Course work required for the Certificate is progressive beginning with basic environmental chemistry, state and federal environmental regulations, various types of groundwater contamination and suitable technologies to abate hazardous waste contamination. Elective coursework is designed to supplement the required courses and allows the students some area of more advanced concepts. Note: This certificate is subject to Faculty Senate approval.

Required Courses:

- 86.131 Environmental Chemistry I
- 15.280 Industrial Waste Treatment
- 15.340 Hazardous Waste Management
- 15.396 Groundwater Resources
- 41.367 Environmental Law & Regulations

Electives (Choose 3)

- 40-Hour OSHA "Hazwopper" Training
- 86.132 Environmental Chemistry II
- 15.388 Pumps & Compressors
- 15.420 Solid Waste Management
- 15.492 Water/Wastewater Plant Management

Additional Certificate Programs:

UMass Lowell also offers certificate programs in:

- Banking
- Electro-Optics
- Engineering Skills
- Plastics Engineering Technology
- Land Surveying
- Manufacturing Technology
- Nutrition
- Purchasing Management
- Packaging
- Quality Assurance
- Security Management
- Spanish

For more information and a detailed program packet, please call the Division of Continuing Education at (508) 934-2470.